

# THE ILLUSTRATED LONDON NEWS



ORIGINALLY  
THE LIQUEUR  
OF A PRINCE

## Drambuie

THE DRAMBUIE LIQUEUR CO., LTD., 12, YORK PLACE, EDINBURGH

TO-DAY  
THE CHOICE OF  
THE CONNOISSEUR

**LE ZOUTE**  
**ROYAL ZOUTE GOLF CLUB**

Three grand seaside courses and 30 Hard Tennis Courts. Living costs and charges much cheaper than elsewhere. Championships held every year. Write Secretary

Belgian Air Lines. **SABENA**. Croydon to Le Zoute in 45 minutes.

Travel cheaply, in comfort and in luxury VIA DOVER—OSTEND. Magnificent Motor Ships and Turbine Steamers.

FOR ALL INFORMATION apply to: Official Committee for Tourism, Town Hall, Knocke on Sea; Syndicat d'Initiative, Le Zoute

BELGIUM

**KNOCKE ON SEA**  
**MUNICIPAL CASINO-KURSAAL**

The "SALONS PRIVES" are open from Easter to the end of September.

From JULY to SEPTEMBER—GRAND SYMPHONY CONCERTS, with World Famed International Artists. Operatic Selections — Fashionable Fêtes. Tea Dansants. Soirées Dansantes.

**REAL LAGER!**

## Patz

GERMAN LAGER

What flavour!  
"Patz" is twelve  
months matured  
—that's why! Try  
a genuine Lager  
to day—ask for  
"Patz"



WORLD'S  
RECORD  
SALE

From Hotels, Clubs, Wine Merchants  
If any difficulty apply to sole distributors:

**JOHN C. NUSSLE & CO., LTD.**

21, Soho Square, London. W.1. 'Phone: Gerrard 3706 (3 lines). 'Grams: "Joconussle, Rath, London."



BY APPOINTMENT  
TO THE LATE KING GEORGE V

## PARIPAN

ENAMEL

"The more you wash it, the better it looks."

BRITISH OWNED AND BRITISH MADE.

**PARIPAN LIMITED, LONDON.**

THE ARISTOCRAT  
OF CIGARETTES

# DE RESZKE —of course!



By Appointment to the  
late King George V.

No home complete without  
**JEYES' FLUID**  
THE BEST DISINFECTANT



By Appointment to the  
Prince of Wales 1933-1936

## Mothersills

STOPS and PREVENTS



ALL TRAVEL SICKNESS BY  
SEA, AIR, TRAIN, OR MOTOR

Of all Chemists throughout the World.

ASK FOR

'GIN AND

## LILLET

— YOU'LL ENJOY IT *I do*

5/6 a bottle. Agents: Twiss & Brownings & Hallows Ltd 16, Water Lane, E.C.3



## TENNENT'S British LAGER

Tennent's Lager Beer is on sale at all  
Bars and Restaurants at the Empire  
Exhibition, Glasgow

J & R. TENNENT, LTD.

WELLPARK BREWERY, GLASGOW



# Grant's Scotch Whisky



# more than a name....

The vast capacity of our Bonded Warehouses enables us to maintain exceptional stocks of Whisky, largely the produce of our own Distilleries. This supply under our own control is your insurance that not a bottle is released until it is thoroughly and satisfactorily matured. . . . "Highland Queen" is more than a name.



## HIGHLAND QUEEN

SCOTCH WHISKY

PRODUCT OF THE LARGEST INDEPENDENT DISTILLERS IN SCOTLAND

MACDONALD & MUIR, LTD.  
LEITH, EDINBURGH; also GLASGOW & LONDON

### The WISE MEN OF ANCIENT EGYPT



told  
HERODOTUS

That the Sun moves north as men travel south, until finally it shines continuously in the north.

For 1,500 years men laughed at the "gullibility" of the ancients, until, by sailing past the Equator, Europeans of the Middle Ages DISCOVERED what the Egyptians KNEW thousands of years before.

#### Suppressed Knowledge Of Ancient Sages

—lost to the world for 5,000 years, but preserved by the FEW who could appreciate and use it—is available to you, through association with the Rosicrucians. Their unique and successful methods of mastering life's problems and developing Personal Power are even more effective today. Try their formulas on your own personal and practical problems.

#### Successful? — Happy?

Have you realized the highest possibilities of which you are capable? Are you going through life with your greatest assets—social, business, intellectual—locked in a chest, without looking for the key?

Send for a Free Copy of "The Secret Heritage." It may open up a new world of personal satisfaction and practical achievement; it might have a startling effect upon your own future. It is sent free to the serious. Address Scribe Y.Z.N.

#### The ROSICRUCIANS AMORC

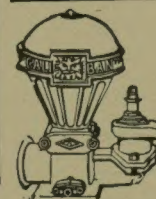
San Jose California  
(Not a religious organization)

#### Rare British Colonial Stamps sent on approval.

The cheapest dealer in the World for British Colonial rarities is:—

T. ALLEN,  
FRINTON-ON-SEA,  
ESSEX

#### YOUR CISTERN IN THE ROOF



supplied by BAILEY'S "CALIBAN" RAM. Worked by falls of water as low as 3 feet given by running brooks. No running costs or attention.  
SIR W. H. BAILEY & Co., Ltd.  
Salford 5, Lancs.

THE DOCTOR PRESCRIBES

VITTEL FOR VITALITY



FOR ARTHRITIS  
AND HEPATIC  
INSUFFICIENCY

VITTEL FOR  
ITALY. DRINK THE  
ITALISING WATERS:  
VITTEL "GRANDE SOURCE"  
VITTEL "HEPAR". IT'S  
ITAL TO GO TO  
VITTEL

#### GET THE VITTEL HABIT — IT'S A GOOD ONE!

To have a real holiday -- to be free from all the petty troubles of everyday life -- change scenes completely. Go to Vittel, the Park Spa of Europe. Every hour there you will find healthful rest and pleasure. The famed waters, "Grande Source" and "Source Hepar", will transform your fatigue into energy, correcting the faulty elimination of toxin; if you suffer from arthritis or hepatic insufficiency, a cure at Vittel will give rapid and gratifying results. And once you have taken a cure you can continue its good effects by drinking bottled Vittel at home. Vittel Waters are on sale everywhere.

Stay at the GRAND HOTEL, VITTEL-PALACE or the de luxe ERMITAGE, which faces the beautiful 18 hole golf course. In Vittel, there are accommodations to suit every purse. Let us send you a free booklet describing the delights of Vittel -- the swimming pool, tennis courts, racing, concerts, theatre, Casino... write:

Société Générale des Eaux Minérales de Vittel, Vosges, France,  
or apply to French Railways -- National Tourist Office, 179 Piccadilly,  
London, W.1. or any Travel Agency.

The Spa to choose  
this year





# '...call for me at 2'



**T**HE more important the occasion, the more your clothes are likely to seem unworthy of it. The Austin Reed New Tailoring is planned to give a man whatever clothes he needs at just whatever time he needs them.

Our tailors work in advance and take their time. Their cloths are the finest cheviots, worsteds, saxonies, tweeds, in an ever-renewed variety of colourings and patterns. These men are experts, and they work to a range of sizes so minutely graded that you need call in but once to equip yourself with clothes that fit you perfectly.

*We have a very wide array of suits in the newest patterns for Summer, in worsteds, saxonies and cheviots.*

**6, 7 and 8 guineas**

*Ready for anything in half-an-hour*

## AUSTIN REED

OF REGENT STREET

103-113 REGENT STREET · W.1 · 13 FENCHURCH STREET, E.C.3 · 77 CHEAPSIDE, E.C.2



## CONCRETE TUBE GARDEN AIR RAID SHELTERS

Fully illustrated  
folders on request  
**NORCON, LTD.**  
351, Brixton Road,  
LONDON, S.W.9  
Tel. Brixton 4942  
(3 lines)

Splinter-proof, Gas-proof  
& Fire-proof. Delivered  
free England and Wales  
from £35. Two specimen  
shelters erected at these  
offices for your inspection.



### Like a fountain springing into life

Brilliance dawns at a touch in  
tarnished silverware polished  
with "Godard's." 98 years of  
consistently careful manufac-  
ture has inspired world-wide  
confidence in

## "Godard's" Plate Powder

In boxes 6d., 1s. & 2s. Also in 1 lb. canisters 3s.

### FREE BOOKLET

"How to care for Silver and Plate"—sent  
on request to J. Godard & Sons, Ltd.  
Dept. 15, Nelson Street, Leicester  
Sole Proprietors and Manufacturers



### HIS REST

is gone, his sleep disturbed by  
the continuous din in the  
house; but why doesn't he use  
OHRÖPAX ANTIPHON? 6  
pairs plastic globules, 2/6.  
At all Pharmacies and Drug Stores.

Sole Agents: **ELNAHAR LTD. (N)**  
7, Great Marlborough St., London, W.1.



### GEO. V. PICTORIAL SETS.

We specialise in the postally  
used King George V. sets; and  
we shall be glad to send you  
our list on request. Remember  
these sets are rapidly becoming  
obsolete; secure them while  
our stocks last.



### JUBILEES.

Now is the time to complete  
before prices again rise. Let us  
know the stamps you are miss-  
ing, and we will make you a  
special price to complete your  
set. Complete Price List of all  
the Jubilee stamps and varieties,  
mint and used on request.



### CORONATIONS.

Complete your set at to-day's low  
prices! Let us know the stamps  
you are missing, and we will make  
you a special price to complete  
your set. Complete Price List of all  
the Coronation stamps and vari-  
eties, mint and used on request.

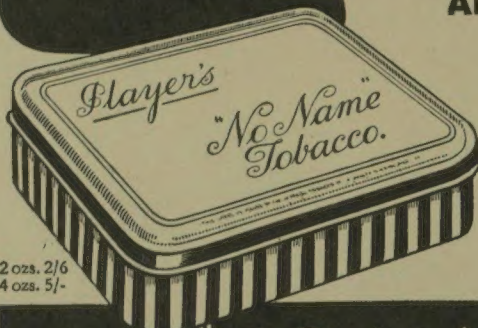


### GEO. VI. NEW ISSUES.

We have made complete arrangements  
for, and offer all the forthcoming George  
VI. sets POSTALLY USED. Illustrated  
Brochure and complete details for the  
New Issues Postally Used, on request.

● CATALOGUE ●  
82 pages, fully illustrated—Offers of all the  
above, and numerous other attractive  
bargains, sets, single stamps, single-  
country collections, packets and albums,  
etc. This wonderful Cat.—Post free 9d

**H&A.WALLACE**  
94, OLD BROAD ST., LONDON, E.C.2. Phone: NAT 7992-3



### AFTER MANŒUVRES...

he is waiting for the London  
train. Yes, everyone behaved  
very well. Feeling rather mud-  
stained, though. His thoughts  
dwell on a bath and a steak.  
Meantime (he brings out that  
well-known black and white  
tin)—a pipe of "NO NAME."  
You would expect such a man  
to smoke "NO NAME," that  
excellent, dependable tobacco.

PLAYER'S "NO NAME" TOBACCO

P. N. N. 44 B.

### FISHING AND SHOOTING IN

## YUGOSLAVIA



MOSTAR

Yugoslavia is par excellence a  
Fishing and Shooting Country

The fishing season extends from May to  
November, while shooting goes on from  
October 1st to January 15th.

You will find the remarkable fishing  
centres:

Lakes of Bohinj, Bled, Plitvice, Ohrid  
and Prespa.

Mostar and Jablanica—Neretva River—  
Visegrad and Ustiprača—Drina River—  
Oguljin—Dobra River, etc., etc. . .

### THREE IMPORTANT INNOVATIONS

50% REDUCED RAILWAY FARES. TOURIST VISA AND TOURIST DINAR

Full particulars from any Travel Agent or YUGOSLAV TOURIST OFFICE

London, S.W.1: 25, Cockspur Street  
Paris: 38, Avenue de l'Opera

Berlin, N.W.: 7 Neue Wilhelmstrasse 12-14

Prague II: Vaclavské nám., 60  
Budapest V: Dorottya ucca 6

Vienna I: Augustinerstrasse, 3

## The STANDARD of QUALITY



### British Consols

In Canada you'll enjoy this mild Virginia  
cigarette—a favourite with Canadians.

### "EXPORT"

A Virginia cigarette of pleasing mildness.  
Plain Ends • Moisture proof paper • Available  
on all Canadian Pacific and Donaldson  
Steamships.

The MACDONALD TOBACCO COMPANY "Canada's largest  
Independent Cigarette and Tobacco Manufacturers"

# CLEAR THAT COLD WITH VAPEX

A summer cold is dangerous because it  
destroys the vitality you should be build-  
ing up for the coming winter. Get rid  
of it quickly with Vapex. Breathe the pleasant,  
refreshing vapour which penetrates to the  
innermost passages of nose and throat, easing  
the breathing, relieving any headache or  
stuffiness and killing the germs at their source.  
Vapex is perfectly safe for children—guaranteed  
free from ephedrine or any narcotic.

From your Chemist 2/- & 3/-

V184 THOMAS KERFOOT & CO. LTD.



### READ

## "RAPIER" ON RACING

each week in The

## SPORTING and DRAMATIC NEWS

AT ALL NEWSAGENTS AND  
BOOKSTALLS. ONE SHILLING



### SUPERFLUOUS HAIR Removed by Electrolysis at home

The Vandré Home Electrolysis Outfit enables any  
lady to remove disfiguring hairs by the genuine  
Electrolysis process in privacy at home, saving  
pounds. The only known permanent way, Electro-  
lysis removes each hair and root completely, with-  
out any discomfort, leaving the skin lovely. It has  
never failed and is so simple a child could use it.  
Self-contained. Guaranteed. Complete with full  
instructions £4.4.0, or 10/- monthly. Trial free.  
Illustrated particulars free, in plain envelope.

VANDRÉ, Ltd. (Dept. 58), 169, PITT ST., GLASGOW

## ASTHMA

[New Low  
Price of  
4/-]

Made Possible  
by Increased  
Demand.

If you want relief from spells  
of hard breathing, choking and  
wheezing that makes you gasp  
for breath, try Himrod's Cure.  
It has brought relief to sufferers  
for over sixty five years.

A Doctor writes:—  
"I have prescribed Himrod's  
with unbelievable results."

Insist on the genuine

**HIMROD'S  
CURE**





SOME PEOPLE GO ABROAD TO  
CLIMB MOUNTAINS . . . . .

SOME GO FOR  
SUNBATHING . . . . .

OTHERS PREFER TO  
STUDY ART AND  
ARCHITECTURE . . . . .

OR TRY  
THEIR LUCK AT  
FORTUNE'S WHEEL

THE MOTORIST  
EXPECTS GOOD ROADS

AND  
NO RESTRICTIONS

... AND  
EVERYONE  
APPRECIATES A  
CHANGE  
OF DIET .



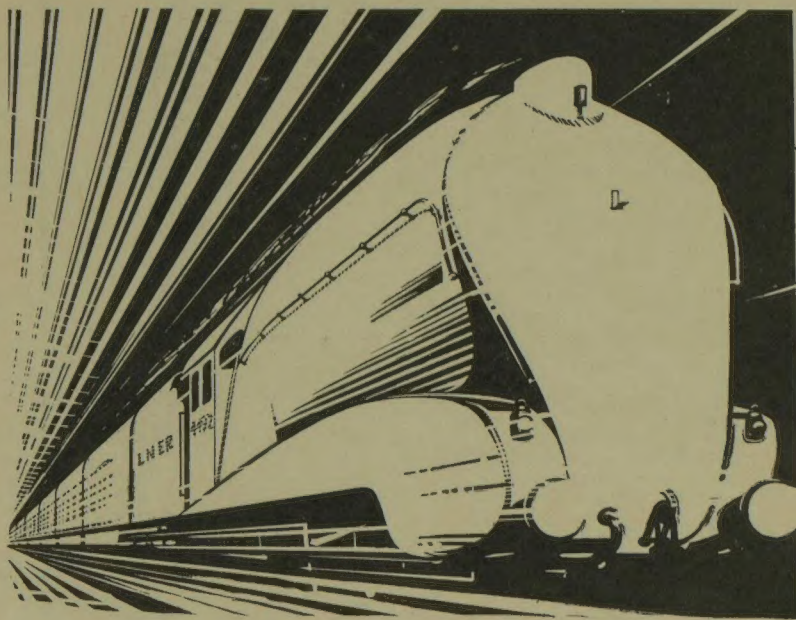
## WHATEVER YOUR CHOICE ITALY

offers you an ideal holiday.

- Special Tourist Rate of Exchange.
- Hotel Coupons from 5/- to 18/- a day inclusive.
- Big rebates in the cost of petrol.
- 50% to 70% Reduction in Railway Fares.

15-day Tours by  
"Special Trains"  
visiting the Italian  
Lakes, Milan, Venice, Florence,  
Rome, Naples and Capri are  
organised by the principal  
Tourist Agencies at the inclu-  
sive cost of only 23 guineas.

For information and descriptive booklets apply to: E.N.I.T., 38, Piccadilly, London, W.1.,  
or any Travel Agency.



## to SCOTLAND with speed and comfort

Splendidly appointed Express Trains leave King's Cross, Euston and St. Pancras every weekday for Scotland. Each one is the last word in travel efficiency, and is complete with restaurant cars, in which you can eat and drink as you wish; spacious corridors in which you can stretch your legs and ample facilities for a refreshing wash. For a shilling you can reserve a seat at the starting point but supplementary fares (including reservation) are charged on "The Coronation," "The Queen of Scots" and "The Coronation Scot." A time-table of the principal day trains is given below for your guidance and help:—

### FROM KING'S CROSS (L.N.E.R.)

#### WEEKDAYS—RESTAURANT

7.25 a.m. Edinburgh, Glasgow, Perth, Dundee and Inverness. (On Saturdays 5 minutes later).  
9.20 a.m. Edinburgh and Glasgow. (Saturdays only, 9th July to 3rd September).  
10.0 a.m. "The Flying Scotsman". Edinburgh (non-stop) arr. 5.0, Dundee arr. 6.37, Aberdeen arr. 8.15 p.m.  
10.5 a.m. Edinburgh (except Saturdays, July 16th to September 3rd), Glasgow, Perth, Dundee, Aberdeen.  
10.10 a.m. Edinburgh and Glasgow (Saturdays only, July 16th to September 3rd).  
11.20 a.m. "The Queen of Scots" Pullman. Edinburgh, Glasgow, Dundee, Aberdeen.  
11.50 a.m. Edinburgh, Glasgow, Dundee. (Saturdays only and not after September 10th)

1.10 p.m. Edinburgh and Glasgow (Saturdays only).

1.20 p.m. Edinburgh, Glasgow, Perth (Inverness—Saturdays excepted).

2.30 p.m. Edinburgh, Glasgow, (Saturdays only and not after September 10th).

4.0 p.m. "The Coronation". Edinburgh (arr. 10.0 p.m.). (Saturdays excepted). Will not run on Friday July 29th nor Monday, August 1st.

#### SUNDAYS—RESTAURANT

11.0 a.m. "Sunday Scotsman" Edinburgh (non-stop), Glasgow and Dundee. (Not after September 4th).

11.10 a.m. Edinburgh, Glasgow, Dundee and Aberdeen.

1.0 p.m. Edinburgh, Glasgow, Perth, Dundee, Inverness.

### FROM EUSTON (L.M.S.)

#### WEEKDAYS—RESTAURANT

10.0 a.m. "The Royal Scot"—Edinburgh and Glasgow. See note C.  
10.5 a.m. Stirling, Gleneagles, Perth, Dundee, Aberdeen. See note D.  
1.15 p.m. "The Midday Scot"—Sats. only. Glasgow. See note A.  
1.30 p.m. "The Coronation Scot"—Glasgow. See note E.  
1.30 p.m. Glasgow. Runs Friday July 29 only.  
1.30 p.m. "The Midday Scot"—Sats. only. Edinburgh. See note B.  
1.35 p.m. Stirling, Gleneagles, Perth, Aberdeen, Inverness, (except Sats.).  
2.0 p.m. "The Midday Scot"—Saturdays excepted. Edinburgh.  
2.0 p.m. Glasgow. See Note F.

#### SUNDAYS—RESTAURANT

11.10 a.m. Glasgow. Runs on July 31st only.  
11.20 a.m. Glasgow, Stirling, via Glasgow.  
11.35 a.m. Glasgow and Edinburgh (Princes Street), also to Perth, Aberdeen and Inverness, via Glasgow.

Notes: A—Will not run after September 3rd. B—Also to Glasgow, commencing September 10th. C—Edinburgh portion leaves at 10.5 a.m. Saturdays July 23rd to September 3rd inclusive. D—On Saturdays from July 23rd to September 3rd inclusive, leaves at 10.10 a.m. E—Saturdays excepted. Will not run on Friday July 29th nor Monday August 1st. F—Applies Monday August 1st only.

### FROM ST. PANCRAS (L.M.S.)

#### WEEKDAYS—RESTAURANT

9.5 a.m. "The Thames-Forth Express"—Edinburgh, Gleneagles, Perth, Dundee, Aberdeen.  
10.0 a.m. "The Thames-Clyde Express"—Dumfries, Kilmarnock, Glasgow (St. Enoch), Ayr, Turnberry.  
12.0 noon. Edinburgh, Dumfries, Kilmarnock

Ayr, Glasgow (St. Enoch), Gleneagles, Perth, Aberdeen (and Inverness and Oban—no arrival on Sundays).

#### SUNDAYS

10.30 a.m. Dumfries, Kilmarnock, Edinburgh and Glasgow, Perth, Inverness and Aberdeen via Glasgow. Restaurant Car to Glasgow (St. Enoch).

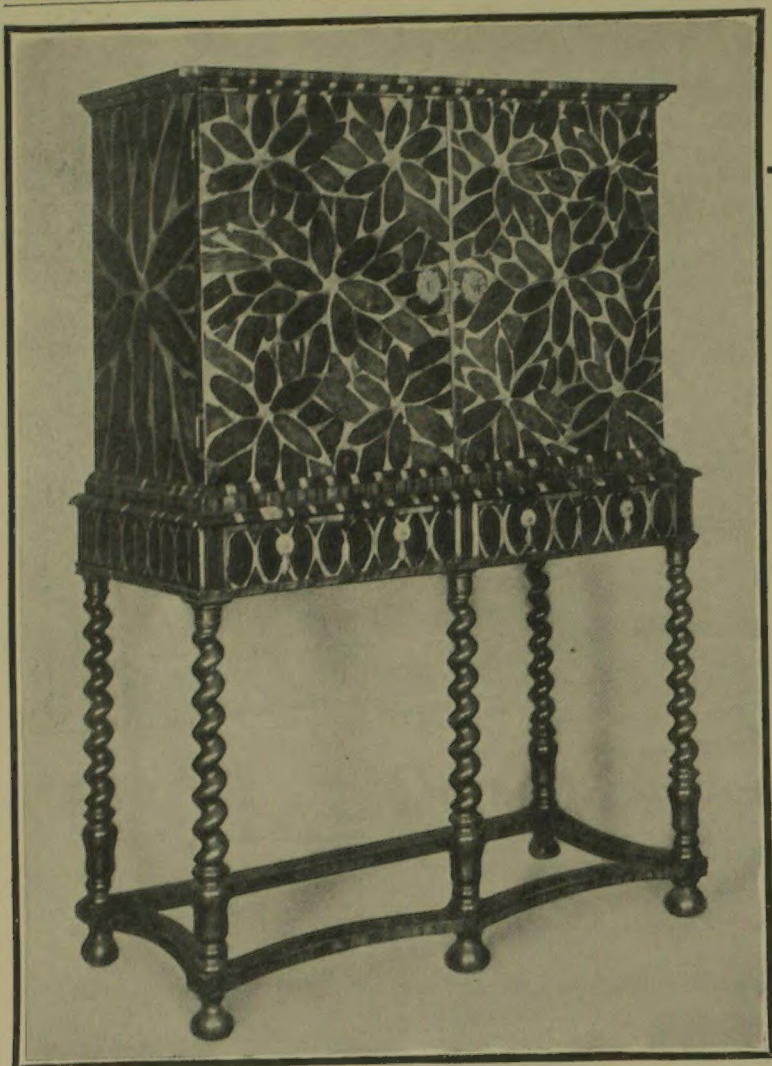
The times of Night Trains will be supplied at any L.N.E.R. or L.M.S. station, office or agency.

CHEAP MONTHLY RETURN TICKETS — With a cheap Monthly Return Ticket you have the choice of East Coast, West Coast or Midland routes, in either direction, with break of journey at any station. MOTOR CARS — Motor Cars accompanied by one first-class or two third-class adult passengers are conveyed by Rail to include outward and homeward journeys at reduced rates

## IT'S QUICKER BY RAIL!

LONDON & NORTH EASTERN RAILWAY • LONDON MIDLAND & SCOTTISH RAILWAY





BY APPOINTMENT TO  
H.M. Queen Mary H.R.H. the Prince of Wales.  
1929 - 1936

## ANTIQUE FURNITURE & WORKS OF ART

A William and Mary Cabinet of Drawers on Stand.  
Veneered with 'oystered' crocuswood inside and out.

# M HARRIS & SONS

44-52, NEW OXFORD STREET, W. C. 1. 61, ST. JAMES'S STREET, S.W.1.  
LONDON



BY APPOINTMENT



BY APPOINTMENT

ESTABLISHED 1785



Gieves Poplin  
Sports Shirt  
with Collar  
attached.

Price .. 13/6

## Gieves

LIMITED

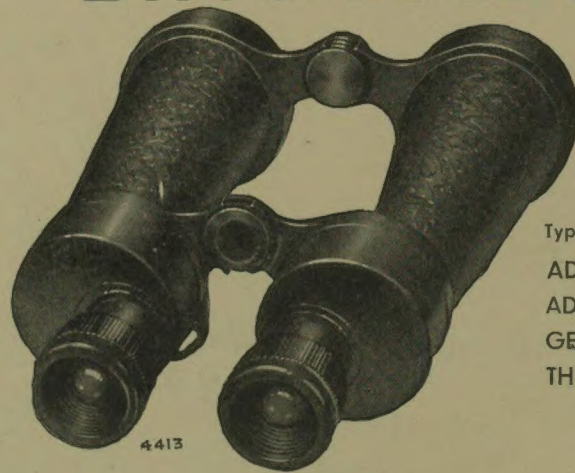
21, OLD BOND STREET, LONDON, W.1

Telephone: Regent 6411

Telegrams: "Mustis, Piccy, London"

EDINBURGH, WEYMOUTH, CHATHAM, SOUTHSEA, MALTA, LIVERPOOL, PORTSMOUTH,  
PLYMOUTH, SOUTHAMPTON, GIBRALTAR.

## BARR & STROUD BINOCULARS



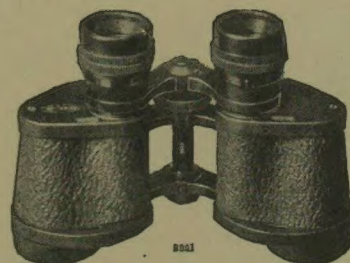
Type C.F.30. 7x50m.m.  
ADOPTED BY THE  
ADMIRALTY FOR  
GENERAL USE IN  
THE BRITISH NAVY

### NINETEEN MODELS

Of the highest quality optically and mechanically; the percentage of light transmitted to the eye is the highest ever attained in binocular design. Strongly made but light in weight with a superb finish that is permanent

OBTAINABLE FROM  
LEADING RETAILERS

Send for list L.N. and booklet  
"CHOOSING A BINOCULAR"  
post free



See our stand E58  
Palace of Engineering  
EMPIRE EXHIBITION  
GLASGOW

**BARR & STROUD LTD**

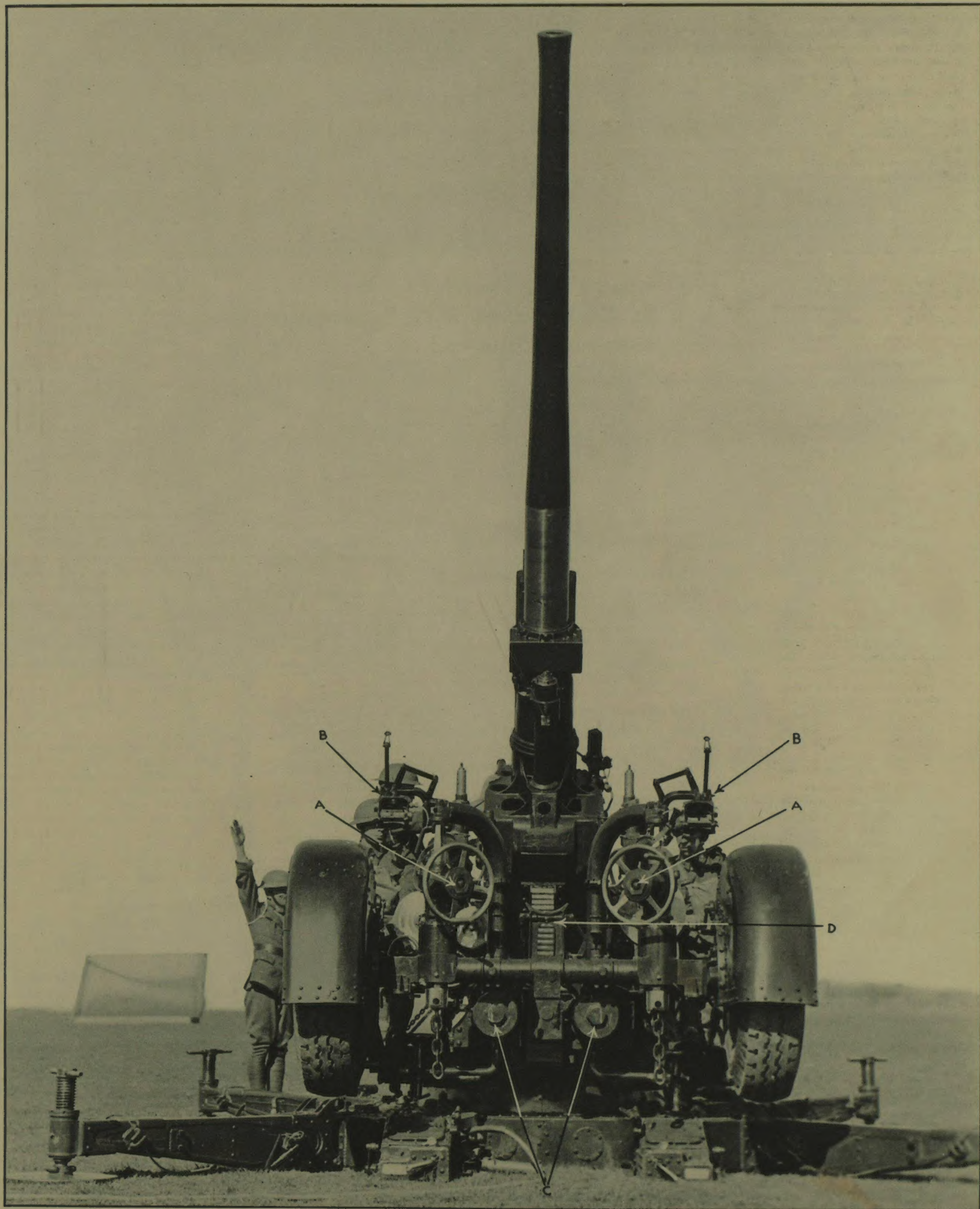
Anniesland, Glasgow — and  
15 Victoria St., London, S.W.1.



# THE ILLUSTRATED LONDON NEWS

The World Copyright of all the Editorial Matter, both Illustrations and Letterpress, is Strictly Reserved in Great Britain, the British Dominions and Colonies, Europe, and the United States of America.

SATURDAY, JULY 16, 1938.



A MOST IMPORTANT FACTOR IN OUR AIR DEFENCES: THE 3.7 ANTI-AIRCRAFT GUN, NOW ISSUED TO BATTERIES.

The 3.7 A.A. gun is to be the chief weapon of the Territorial Anti-aircraft batteries. Photographs of the gun and fire-control equipment will be found on another page in this issue; while here we show the principal working parts of the gun. The hand-wheels ("A") are for lowering the gun from the travelling

position to the "action" position. At "B" is the telescopic sighting system which enables the gun to be laid independently of the predictor; while the cases of the springs which assist the layer to elevate the weight of the gun are shown at "C." The extremely robust elevating arc is seen at "D."





By ARTHUR BRYANT.

A SERIES of delightful articles in *The Times* last week described the adventures of a Melbourne University Professor among the aborigines of Arnhem Land in the northern wilds of Australia. It seems that a good deal of unrest and trouble had been going on for some time among the native tribes in that remote corner of the world, and that several white men had been killed. But instead of sending out a punitive expedition to punish the offenders and re-establish white prestige at the cost of enormous treasure and a great many more lives, white and black, the Australian Government hit on the happy device of borrowing Mr. Donald Thomson from the University of Melbourne, and commissioning him to enter the disturbed area and establish friendly relations with the natives. Pacification was to be achieved, in fact, by what Mr. Thomson himself describes as an anthropological method of approach. There might, perhaps, be a loss of honour—"what is that word honour? who hath it? he that died o' Wednesday"—in this way of proceeding, but there was certainly an immense gain in common sense.

The essence of Mr. Thomson's approach to the problem was to overcome fear. That he rightly diagnosed as the cause of the original trouble and, unless allayed, it would undoubtedly be the cause of more. The aborigines were afraid of the whites, and, being both afraid and fighters, they were hostile and aggressive and a menace to their more peaceable neighbours. To cast out that fear, which made them so dangerous both to themselves and everyone else, Mr. Thomson had first to cast out fear himself. The white men at Thursday Island, the last outpost of civilisation at which he called on his outward journey, prophesied that they would never see him alive again. Judging by his account of even his preliminary adventures, their gloomy predictions were scarcely surprising. Fortunately for the peace of Arnhem Land, Mr. Thomson did not take any notice of them. He proceeded to track the warlike offenders against his country's peace by the smoke of their hunting-fires until at last he had run them to earth. He entered their camp on foot with nothing but a stick and a hunting-dog. He did not even carry a revolver. If the V.C. were awarded for pacific acts of valour as well as for warlike ones, Mr. Thomson deserved the decoration as much as any man has ever done. The simple tribesmen, who themselves are valorous, were quick to recognise it. They saw him defenceless and unafraid, and at the sight their own fear of the white men slid from them. So did their hostility, for they realised that he was ready to trust them. The only similar experiment I can recall was that of Cecil Rhodes during the Matabele rising of 1895. The warriors, avenging what they conceived as injustice and oppression by massacre, had retreated before the military into the inaccessible hills. Only a long, bloody and costly campaign, it was held, could completely disarm and quiet them. Rhodes, a great natural psychologist—one of the greatest—held that there was another way. He resolved to put it into practice. Unarmed and with a few companions he rode into the mountains and, exposing himself to death, showed himself ready to make terms. The native chiefs were thus emboldened to treat with him, for there was nothing

about his defenceless state of which they could be afraid. So, against the advice of soldiers and civilians alike, Rhodes achieved a pacification. Of all his triumphs it is the finest and most memorable.

It is impossible not to wonder whether a similar method of approach towards potential enemies might not be as successful in civilised Europe as it was in the Australian wilderness. After all, the essentials of human nature, whatever the outward trappings, vary very little. And the methods of cure may prove to be the same, too. For if it was

remote ancestors who worshipped stocks and stones did: it is what our only slightly more enlightened progenitors have been doing for centuries. Those that take the sword shall perish by the sword, is probably sound psychology: it is certainly sound history. The superficial analogy of the punishment of criminals, so often used, does not hold, for criminals, though not usually reformed by harsh punishment, being single men against a vast society, are often deterred by it. Nations are not so easily deterred; their life is multiple and eternal, and they can hit back. Nations cannot be punished: they can only be antagonised. We have not disarmed and pacified a fearful world by menaces uttered in the names of justice and righteousness. Perhaps we also would do well to send out as our ambassadors and representatives, psychologists, trustful and unafraid, to discover the true causes of discontent and enmity. The first qualification to speak, advise or write on foreign affairs should be an ability to enter into the minds and hearts of foreigners. A child's wisdom, the cynic will reply. Mr. Thomson, in his pacification of the Australian aboriginal, did not think so. Nor did the worldly Cecil Rhodes. Nor, for that matter, when one comes to think of it, did the Founder of the Christian religion.

Picture for a moment a diplomacy so conducted and its effect on armed, suspicious and fearful Europe. And in these days, when nations read and speak to each other in the mass, I do not mean by diplomacy merely that technical apparatus of official communication which normally passes by the name. Modern diplomacy in the proper sense inevitably includes every article and every speech made in one country which is likely to be read by the people of another. Suppose that all those who represented their country abroad in this sense were people who by training, knowledge and bent of temperament were able to understand and enter into the feelings of others not of their own race and circumstance. Mr. Thomson, for instance, was a man of a very different mode of habit and thinking from the fearful and warlike people he visited. He was not in the habit of carrying the bones of his deceased relatives with him in a basket, nor of beating his body with a branch of fire when any acquaintance died, lest the ghost of the dead should haunt him and bring him bad luck. Had he not been an anthropologist, he would presumably, as a civilised and educated man, have regarded such practices as superstitious and barbarous. And as a man of peace he would almost certainly have viewed with abhorrence and

aversion a people who were armed to the teeth and ready and even anxious to use their arms. Left to his natural and untrained reactions, he would probably have wished to teach them a lesson, imprisoned or hanged their chiefs and bombed their habitations. But, fortunately, he was a trained anthropologist who had been taught to enter into and comprehend the feelings of peoples very differently circumstanced to himself. And, being so trained, he could understand their fears—the cause of their intolerance and violence—and because he understood them, help to allay them. That is the way to make a real peace between the nations, and, judging by the results that have attended the making of war to end war, the only way.

### A Message to "The Illustrated London News" from Mr. Geoffrey Lloyd, M.P., Parliamentary Under-Secretary of State for Home Affairs, and Supervisor of Air Raids Precautions activity throughout the country.

THE HOME OFFICE,  
WHITEHALL.

July 5, 1938.

I CONGRATULATE *The Illustrated London News* on its enterprise in producing this number dealing with the subject of air raid precautions, which is one of vital interest not only in this country, but also in all the great countries of Europe. As the Home Secretary has said, this country has never before in peace time undertaken an organisation involving so great and complex a measure of national service as this work of air raid precautions. The work is receiving the support of all sections of opinion. We all desire peace, and the greater the efficiency of the precautions, the less is the temptation to a potential aggressor to attempt a "knock-out blow" by means of attack from the air.

The reader of this number will get a good idea of the scope of the problem. It has been necessary to devise measures for protecting our great industrial cities from the effects of high explosive, incendiary bombs, and poison-gas, on the assumption that it will not be possible to obtain more than a few minutes' warning of a raid. Plans have had to be thought out for protecting people at home, at their place of work or business, and in the streets. Volunteers for the various air raid precautions services have to be enrolled, organised, equipped and trained, shelter accommodation found, fire-brigade services enormously increased. A good start has been made with the work, but an immense national effort will be required if we are to demonstrate successfully to the world that the results produced by the spirit of voluntary service, working through our free institutions, can equal the results achieved by Governments working upon the principles of compulsory service and a controlled Press.

fear that was making the warriors of Arnhem Land such bad and dangerous neighbours, it is precisely that which is making certain of the nations of Europe such troublesome neighbours to-day. The aborigines whom Mr. Thomson visited, with their warriors standing sullen and suspicious and their camp bristling with spears, were in precisely that frame of mind which the more unscientific supporters of the League of Nations find so deplorable and infuriating in those armed peoples who do not acknowledge the rights of Geneva. I use the word "unscientific" advisedly, though, I hope, not offensively. For what could really be more unscientific and primitive than to try and cast out fear by fear, anger by anger, barbarous force by barbarous force. It is what our



# A.R.P. OFFICIALS AND OTHER PERSONALITIES: PEOPLE IN THE PUBLIC EYE AND EVENTS OF THE WEEK.



GREAT BRITAIN SETS UP A NEW WORLD RECORD FOR A GLIDER FLIGHT: THE "FALCON III," TWO-SEATER SAILPLANE PHOTOGRAPHED DURING ITS DURATION FLIGHT OF 22 HOURS, 13 MINS. AND 35 SECS.

Before dawn on July 9, Mr. J. S. Sproule and Flight-Lieutenant W. B. Murray took off in a "Falcon III," two-seater sailplane at Dunstable Downs in an attempt to beat the world's record for a duration flight by a glider, then held by Germany with a time of 21 hours, 2 mins. They landed, by the light of car headlamps and a portable floodlight, at 2.22 a.m. on July 10, after having remained in the air for 22 hours, 13 mins. and 35 secs. The previous British record for



HOLDERS OF A NEW WORLD GLIDING RECORD: MR. J. S. SPROULE (LEFT) AND FLIGHT-LIEUT. W. B. MURRAY (RIGHT) BESIDE THEIR AIRCRAFT.

a two-seater glider was a flight of 9 hours 48 mins., set up in the same machine. Mr. Sproule took turns with Flight-Lieutenant Murray at the controls. Three attempts were made to provision them by lowering sandwiches from another glider during their flight, but, although contact was made, the line from the craft above struck a bracing wire in each case and was turned away. The pilots were tired and stiff when they landed, a not unexpected condition.



MR. GEOFFREY LLOYD, M.P.



MR. C. W. G. EADY.



WING-COMMANDER HODSOLL.



THE DOWAGER LADY READING.



MRS. MONTAGU NORMAN.



LADY RUTH BALFOUR.

## LEADERS OF GREAT BRITAIN'S A.R.P. ORGANISATIONS: MEN AND WOMEN EXPERTS WHO ARE DEVOTING THEIR TALENTS TO SOLVING ITS MANIFOLD PROBLEMS.

We give here portraits of six outstanding figures in the A.R.P. organisation of this country at the moment. Mr. Geoffrey Lloyd is Parliamentary Under-Secretary to the Home Office, and is acting as Supervisor of A.R.P. activities throughout the country. He is engaged in touring England and Wales to examine personally the stage reached by the local authorities' preparations. Mr. C. W. G. Eady is Deputy Under-Secretary of State at the Home Office. Wing-Commander E. J. Hodsoll is Assistant Under-Secretary of State, and Inspector-General, A.R.P. Department;

a post he has held since 1935. The Dowager Lady Reading is Chairman of the Women's Voluntary Services for A.R.P.; and Mrs. Montagu Norman, the wife of the Governor of the Bank of England, is the Vice-Chairman. Lady Ruth Balfour is Chairman of the Scottish Advisory Committee. Other leaders of the A.R.P. organisation are Mr. T. H. Sheepshanks, Assistant Under-Secretary of State; Mrs. Glanville Benn, Public Relations Officer, Women's Voluntary Services; and Lady Perrot, the representative of St. John Ambulance Brigade.



WINNERS OF THE ASHBURTON SHIELD AT BISLEY: THE TEAM FROM KING'S COLLEGE SCHOOL, WIMBLEDON, "CHAIRING" THEIR BEST SHOTS AFTER THEIR VICTORY.

On July 7, King's College School, Wimbledon, won the Ashburton Shield at Bisley for the third time in seven years. It is the only school to have won three times since the competition was renewed in 1919. The score was 497; and the best shots in the team were Cadet J. W. Roffey and Cadet K. H. Rapson (seen being "chaired" in our photograph), with a total of 65 each. Marlborough was second, with a score of 488.



ADMIRAL SIR A. B. MILNE. Distinguished career covering fifty years in the Royal Navy. Died July 5; aged eighty-three. Was Commander-in-Chief of the Mediterranean Fleet when the Great War broke out. In 1919, the Admiralty emphasised his freedom from blame over the escape of the cruisers "Goeben" and "Breslau" to Constantinople.



DR. GOLDSMID-MONTEFIORE. Eminent Jewish scholar. Died July 9; aged eighty. Was President of the Anglo-Jewish Association, 1896-1921; and President of the Liberal Jewish Synagogue. Awarded the British Academy Medal for Biblical Studies in 1930. Served as President of the University College of Southampton from 1915 to 1934. A notable critic of political Zionism.



R. A. WHITCOMBE. Won the British Open Golf Championship on the Royal St. George's links, Sandwich, on July 8, with an aggregate of 295. His four rounds were 71, 71, 75 and 78. James Adams was second; and Henry Cotton, third. He is the youngest of the three famous golfing brothers and the first to win this event. The weather conditions were extremely bad.



# WHERE THE ABORIGINES ARE IN DANGER OF EXTINCTION.

A PHOTOGRAPHIC RECORD OF PAPUAN HERO CULTS AND ALLIED CEREMONIES ON THE WEST SIDE OF CAPE YORK PENINSULA.



THE SEA-EAGLE'S NEST DANCE ON THE GULF COAST OF CAPE YORK PENINSULA, NORTH QUEENSLAND: DANCERS ENCLOSED IN HUGE, ELABORATE STRUCTURES ADORNED WITH WHITE FEATHERS OF THE SULPHUR-CRESTED COCKATOO, REPRESENTING NESTS OF THE WHITE-BELLIED SEA-EAGLE.



A WOMAN OF THE ARCHER RIVER AREA, CAPE YORK PENINSULA, MASQUERADING AS A MAN FOR A FUNERAL CEREMONY, THE ONLY OCCASION WHEN A WOMAN MAY CARRY SPEARS AND WEAR A MAN'S ORNAMENTS.



WEARING MOTHER-OF-PEARL BREAST PENDANTS, NECK AND FOREHEAD ORNAMENTS, WITH WATTLE-SPRAYS IN THE HAIR, A SPEAR-THROWER IN THE RIGHT HAND, AND IN THE LEFT SPEAR AND FIRESTICK: WOMEN IN WARRIORS' ARRAY.

We publish the unique illustrations on these two pages (to be followed by others in later issues) in order to preserve a record of Australian aboriginal customs which have either ceased to exist, or will die out soon unless means be found of stopping their decline, as suggested by Dr. Donald Thomson in his recent articles in "The Times" on Arnhem Land. The photographs given here are the only ones extant of a cult that has already disappeared, practised by a tribe now almost extinct, having dwindled to less than a score. These photographs

were taken on the western side of Cape York Peninsula, North Queensland. Others illustrating different cults on the east side will appear in a future number. With reference to the present subjects, Dr. Thomson writes: "Owing to their environment, and the less hospitable nature of the Gulf of Carpentaria coast, the west coast natives of Cape York Peninsula have been excluded from much of the contact of peoples on the eastern seaboard. Nevertheless, they have not escaped the infiltration of invading culture which has swept down

PHOTOGRAPHS AND DESCRIPTION BY DR. DONALD F. THOMSON, OF THE UNIVERSITY OF MELBOURNE. (COPYRIGHT STRICTLY RESERVED.)

[Continued opposite.]



## CULT DANCES OF THE NORTHERN AUSTRALIAN BLACKS.

UNIQUE PHOTOGRAPHS OF HERO-CULT CEREMONIES WHICH HAVE DISAPPEARED, PRACTISED BY A TRIBE NOW ALMOST EXTINGUISHED.



WEARING HEAD-DRESSES IN THE FORM OF HUGE JAWS WITH SERRATED TEETH, RESEMBLING CROCODILES, BUT IN REALITY REPRESENTING KING-FISH, ASSOCIATED WITH THE HERO CULT OF SIVIRRI: AUSTRALIAN ABORIGINES OF CAPE YORK PENINSULA ATTIRE FOR A CEREMONIAL DANCE.



STANDING BEFORE THE MBAGA, OR HOUSE OF THE INITIATES, REPRESENTING THE SACRED HOUSE OF THE WARRIOR HERO SIVIRRI, WHO SET OUT ON AN "ODYSSEY" WHICH ENDED IN THE TORRES STRAITS: THE DRUM MAN (EXTREME LEFT) AND DANCERS OF THE CULT.

*Continued.*

both sides of the Peninsula. But the hero cults, characterised by their masked dancers, have not penetrated so far south, nor are they so virile in form as on the eastern seaboard. Soon after the discovery of the east coast hero cults, similar cults, also associated with masked dancers, obviously of Papuan and not of Australian origin and affinity, were found on the Batavia and Coen Rivers of the Gulf of Carpentaria. Again, as with the great Crocodile Culture Hero of the east coast, there is a saga recounted on the tabu ground, which commemorates

the wanderings and miraculous deeds of Sivrri, culture hero of the Tjungundji on the Lower Batavia River. Sivrri's affinity with the east coast cult heroes and with Torres Straits is a striking feature. Sivrri, who is said in the saga to have set out in a canoe for Torres Straits, where he died a warrior hero, is probably to be identified with Kwoiam, the warrior hero of Torres Straits. Legend tells that Kwoiam was like an Australian mainlander in all he did. He was represented as an Australian mainland native, carrying an Australian spear."

PHOTOGRAPHS AND DESCRIPTION BY DR. DONALD F. THOMSON, OF THE UNIVERSITY OF MELBOURNE. (COPYRIGHT STRICTLY RESERVED.)





# THE CHARM OF MUSIC.

CONCERNING CONDUCTORS. By FRANCIS TOYE.

The public, despite their enthusiasm, really know very little about conducting. They generally fail to realise, to begin with, that at least three-quarters of a conductor's work is done at rehearsal. What he does in actual performance matters, of course; but, provided that the foundations of his interpretation have been well and truly laid at rehearsal, it matters comparatively little. For this reason, the actual style of a conductor is of small importance. It may be restrained, it may be exuberant; the result can be judged only by the listener who is ready to shut his eyes and forget about the conductor and the orchestra altogether.

conductors get, so to say, beyond this technique; some, for fear of rigidity, even make a definite point of avoiding the strict time beat. Such methods postulate, of course, not only a first-class orchestra, but an orchestra familiar with the conductor's methods; tried on a strange body of players, however talented, they may lead to great confusion. So it cannot be said that there is any general rule universally binding as to the methods that conductors should or should not employ. The ultimate test, as always with the arts, is the result.

All conductors more or less claim to interpret music in accordance with the composer's intentions. Some, however, are more insistent than others on this point. Toscanini, for instance, has expressly

THE spectacular triumph of Toscanini at the Queen's Hall, the great ovations justifiably given to Beecham and Furtwängler at Covent Garden, focus attention once more on the paramount importance now enjoyed by the conductor in the world of music. The public, whose memory is short, even when its knowledge is above the average, takes all this for granted, supposes, unconsciously perhaps, that it has always been so. Nothing could be further from the truth. The rise of the virtuoso conductor, and the recognition of him as a virtuoso by the public, is in all probability the most striking musical phenomenon of our time.

The conductor as an outstanding figure at all is a comparatively modern innovation. In the palmy days of classical music, and in the opera house until well-nigh the middle of last century, his duties were undertaken by the first violin. I suppose that the art of conducting, as we know it, may be said to have started with Mendelssohn; but its development, like almost everything else connected with music, has been exceedingly rapid. Men like von Bülow in Germany, Mariani in Italy, even the now forgotten but none the less competent Costa in England, must already be reckoned veritable patriarchs of their art. Broadly speaking, they were preceded by an era of composer-conductors, such as Spontini, Wagner and Berlioz, some good, others less good. Their successors, men like Nikisch, Muck, and Richter, lead us straight to the great conductors of to-day.

The modern virtuoso conductor is not without his drawbacks. Sometimes he is as vain and as self-willed as any prima donna. He does not hesitate to invent glosses on this or that orchestral score, if he thinks the effect may thereby be enhanced and his own prowess be made more obvious. We all know conductors of this kind, who, whatever their genius as orchestral trainers or effect producers, must be reckoned as the modern counterparts in music of the Greek Sophists in philosophy.

Another phenomenon characteristic of our time is the outstanding excellence of the modern orchestra, which has achieved a competence and a subtlety undreamed of even fifty years ago. Whether it is the conductor who has raised the orchestra to these heights, or whether it is the orchestra which has enabled the conductor to display his talents in so striking a manner, would be perhaps difficult to determine for certain. One is reminded not a little of the old problem of the chicken and the egg. In all probability the two phenomena are, in fact, intertwined and inseparable, but, were I forced to give an opinion, I should say that the primary factor in the improvement was the conductor. True, a first-class modern orchestra can pull an incompetent conductor through a concert with comparatively satisfactory results. As against that, let the reader consider for one moment the striking difference between the performances of the same orchestra under a conductor of the first order and the conductor who is merely mediocre. In a case such as this there is often difficulty in realising that it is, in fact, the same orchestra.



THE BALLET RUSSE DE MONTE CARLO'S SEASON AT DRURY LANE, WHICH IT WAS ARRANGED SHOULD OPEN ON JULY 12: A SCENE FROM THE NEW BALLET BASED ON BEETHOVEN'S SEVENTH SYMPHONY; WITH DÉCOR BY CHRISTIAN BERARD AND CHOREOGRAPHY BY MASSINE.



"PROTÉE," THE NEW BALLET AT COVENT GARDEN: A GROUP ROUND DAVID LICHINE, WHO DANCES THE PRINCIPAL RÔLE, AND IS ALSO THE CHOREOGRAPHER; WITH (R. TO L.; IN FRONT) ANNA ADRIANOVA AND SONO OSATO; AND (BEHIND) LINA LERINA, NATACHA SOBINOVA, AND ALEXANDRA DENISOVA.

"Protée" is a ballet by David Lichine and Henry Clifford to the music of Debussy's "Dances; Sacrée et Profane." The décor is by Chirico, the famous Italian painter. The ballet has been received with the greatest enthusiasm by Covent Garden audiences, the dancing of Lichine being particularly striking. (Baron.)

Needless to say, there is a technique of conducting as there is a technique of everything else—a clear beat, for instance; independent and intelligent use of the left hand. Some of the most successful

of skilled and sympathetic interpreters.

Then the whole matter of the writing down of music must be borne in mind. The particular method which has been evolved for a composer to transfer his ideas to music paper is far from flawless; it is, indeed, definitely clumsy. Two or more interpretations are often possible, and, despite the metronome, an interpreter cannot be sure even of the proper pace, so that in practice there is often a great deal of rather specious nonsense talked about interpreting the music with exactness and in accordance with the composer's intentions.

Nevertheless, we all know instances where virtuoso conductors make scarcely any pretence to fidelity of interpretation, and, so far as these instances are concerned, they must be accounted just as capricious and as vain as the virtuosi of instrument or voice whom they have so successfully dispossessed.

Again, a conductor may achieve a reputation for virtuosity by specialising in an excessively limited repertory. He may refuse to experiment with new or unfamiliar works; he may take little or no trouble in routine matters, such as the accompaniment of a concerto. Such an one will always impress the public more readily than his fellow-musicians, who will probably prefer the less brilliant achievements of a more conscientious if less talented individual. The ideal conductor, needless to say, unites in himself all the attributes under consideration in various degrees. He is not disdainful of routine, but he enlivens it; he is not afraid of experiments, but he walks warily. His repertory is large, but he possesses certain specialities of his own; his interpretation of music is not devoid of personality, but he does not allow that personality to swamp the intentions of the composer when he has made up his mind what they really were. In short, he is a very rare and remarkable person, of whom there are, perhaps, six in the whole world. We may legitimately feel proud that one of them is an Englishman.



# REVELATIONS OF PREHISTORIC KENYA:

## HUMAN SACRIFICE IN A NEOLITHIC CHIEF'S GRAVE; AND IRON AGE CANNIBALISM.

ARTICLE AND PHOTOGRAPHS BY MRS. L. S. B. LEAKEY.

IN June 1937 excavations were begun at a prehistoric site at the foot of Hyrax Hill, near Nakuru, in Kenya Colony. Two distinct prehistoric cultures have been revealed, both new to East Africa. The earlier belongs to the Neolithic period, and may be provisionally dated about 3000 B.C. The other is an early Iron Age culture, datable with reasonable certainty about 300 A.D. The Neolithic culture is represented by an immense burial-mound, 110 ft. long, 60 ft. wide, and about 5 ft. high at the centre,



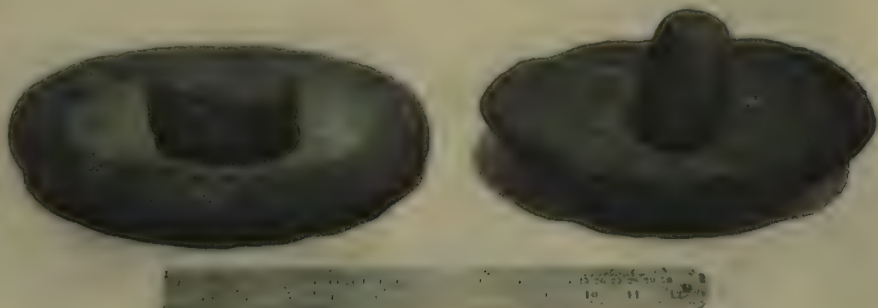
2. SHOWING (ON THE LEFT) TWO OF THE IRON AGE STONE-WALLED ENCLOSURES: A GENERAL VIEW OF THE EXCAVATIONS AT THE FOOT OF HYRAX HILL, KENYA.



1. DATING FROM THE EARLY IRON AGE, ABOUT 300 A.D.: ONE OF THE SMALL STONE-WALLED HUT-CIRCLES FOUND AT HYRAX HILL, NEAR NAKURU.

in which were found sixteen skeletons. The building of this mound must have entailed great labour; hundreds of tons of stone have been used and many of the blocks require five men to lift them. The bodies were placed at the base of the mound and over them was laid a layer of small stones. Then came a layer of earth, averaging 1 ft. deep, and on top was a solid layer of large blocks, followed by smaller stones. This structure is clearly seen in Fig. 6, which shows a section through the centre of the mound. The skeleton of the "Chief" (Fig. 5) was buried in the centre. This skeleton differs from the other burials in important respects. The body was in a sitting position and the skull has a remarkable circular hole in the apex, made after death, about  $\frac{1}{4}$ -in. in diameter at the top and 1 in. deep. Around this skeleton were six others arranged in an irregular oval,

[Continued above, on right.]



4. FOUND WITH SKELETONS OF WOMEN (PROBABLY SACRIFICED WIVES OR SLAVES) BURIED WITH A NEOLITHIC CHIEF: STONE PLATTERS AND PESTLES. (With foot-rule to show size.)



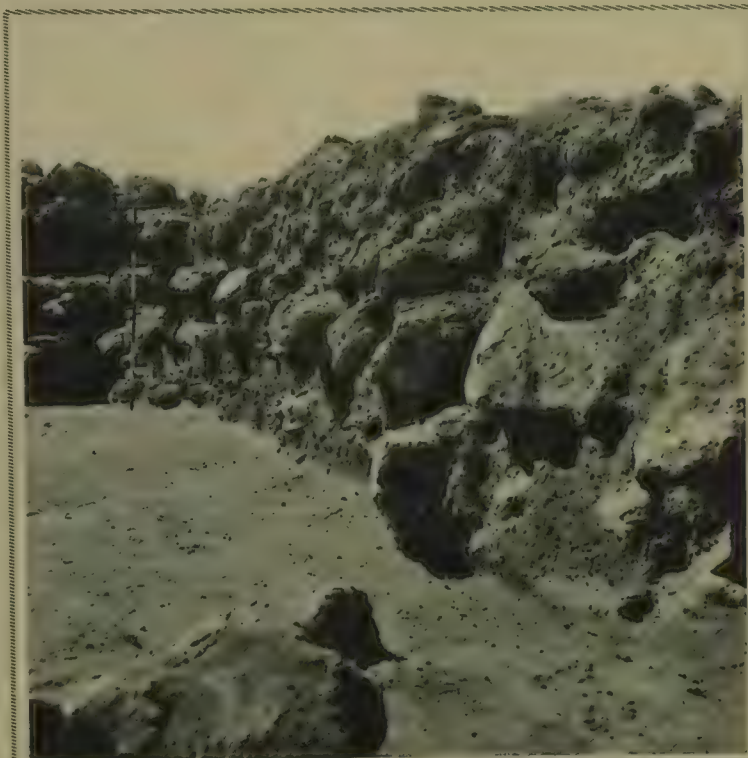
3. NEOLITHIC POTTERY, OF ABOUT 3000 B.C.: POTS RECONSTRUCTED FROM FRAGMENTS, AND SHOWING IMPRESSED CORD DECORATION. (With foot-rule indicating size.)

beads, one of chalcedony and one of bird-bone. The layer of soil between the large and small stones in the mound, however, has been excessively rich in obsidian implements and pottery. The implements consist mostly of scrapers, knives and crescents, with some burins or chisels. The pottery is of particular interest, with great variety of decorative motifs. So far, only two of the pots have been reconstructed (Fig. 3).

The Iron Age site consists of stone-walled huts and middens or rubbish-mounds extending over the outskirts of the Neolithic burial. The finds include an iron axe-head, iron bracelets, bone and ivory pendants, and a quantity of pottery, characterised by an impressed cord decoration, handles and spouts. There are also imported beads of Mediterranean origin, ranging in date from 1 to 300 A.D., and cowrie shells, probably used as currency.

One of the Iron Age huts is seen in Fig. 1 after excavation, while

Fig. 2 shows some of the other stone-walled enclosures. The way in which the Iron Age people disposed of their dead suggests some form of cannibalism. Shallow pits were dug, some into the top of the Neolithic burial-mound, and into these the arms, legs, and heads of several individuals were thrown, pell-mell. The heads have all been severed and thrown in separately, whilst the limbs are usually cut up, but some remain articulated; there are never any associated ribs or vertebrae. In fact, it would seem as though the limbs and heads were cut off and buried, and the bodies otherwise disposed of, perhaps by ritual cannibalism, which was practised until recently by some East African tribes.



6. MASSIVE NEOLITHIC MASONRY, CONTAINING HUGE STONE BLOCKS NEEDING FIVE MEN TO LIFT THEM: A SECTION THROUGH THE MIDDLE OF THE NEOLITHIC BURIAL-MOUND AT HYRAX HILL.



5. SHOWING A REMARKABLE ROUND HOLE PIERCED IN THE TOP OF THE SKULL AFTER DEATH: THE SKELETON OF THE NEOLITHIC CHIEFTAIN, BURIED IN A SITTING POSTURE. (With foot-rule to show size.)





## THE WORLD OF SCIENCE.



### SOME STRANGE INSTANCES OF PARENTAL CARE.

By W. P. PYCRAFT, F.Z.S., Author of "Camouflage in Nature," "The Courtship of Animals," "Random Gleanings from Nature's Fields," etc.

THE study of animal life presents a very wide field. But those engaged in its pursuit, whether they be learned professors or enthusiasts who are content to confine their interests to one group, say, of mammals or birds, or some group of insects, commonly venture no further than what is called the "systematic" side of zoology. That is to say, of gleaning all the information they can, and perhaps all the specimens they can collect, of the particular group in which they are interested. Our museums bear witness to the immense value of such work. But only incidentally, rather than of set purpose, is information gathered of the haunts and habits of these creatures, though nowadays there are some who have discovered what a rich and alluring prospect is assured by the study of this aspect of animal life.

I must confine myself here to the chain of events which is presented by the activities of the reproductive period. Species which anatomically are obviously closely related, behave during this critical time very differently. The study, for example, of the emotional antics of birds during the "courtship" season has brought to light the most surprising facts. Less spectacular, perhaps, but much more elusive when we try to interpret what we see, are the successive sequences of that courtship—nest-building, brooding, and the final care of the young. The magpie and the crow, the sparrow and the chaffinch are hardly distinguishable one from another when their skeletons are examined, but they build nests which are very different. What incites them to build a nest? What determines their choice of the materials used? And it is to be remembered, each in building its first nest, does so strictly after the fashion of its species. Many very different species of birds have a thick "under-fur" of down, yet only in the duck-tribe does the female pluck out this down from her breast to form a cradle for her eggs. What prompts one or both parents to set about the task of incubating the eggs, as if they knew that but for the warmth imparted by their bodies no chicks would make their appearance? And what prompts thrushes and finches, and other species which have to rear families of helpless young in small, cup-shaped nests, to take such meticulous care about keeping that nest clean? And what prompts a seed-eating bird to feed its young on insects?

Here is "behaviour" which has nothing whatever to do with structure, as this term is commonly used. Pluck out the feathers of, say, a thrush and a blackbird and hand the bodies over to an anatomist. He would be unable to distinguish one from the other. But in their plumage and nesting-habits they differ conspicuously. Our difficulties in interpreting what we find in regard to birds and beasts are intensified when we come to survey the like phases of life in creatures lower in the scale of life, and with vastly smaller brains. Among the reptiles, the frog-tribe, and the fishes, though we nowhere find so high a level of parental care, there are some which make a near approach to it.

I speak of "parental care" somewhat timorously, for among "the beasts that perish" it is nowhere of that understanding quality which, though in very varying degrees, it attains to in mankind. The "nursing habits" of some ants, bees and wasps are, indeed, wonderful. They might have been

inspired by Mr. Huxley's "Brave New World" did we not know that they are older than that book by some millions of years! One could easily fill a whole book with records of the strange impulses and activities displayed by creatures of the most diverse types at this most critical period of their life-history—the

chooses this living depository for her eggs because water will be driven over them in a stream as it passes out backwards from the gill-chamber. But one can hardly credit reasoning power such as this. And more than this, the "good intentions" of the thoughtful mother would be largely frustrated by the fact that the water leaving that breathing-chamber would be water that had been deprived of all, or most, of the oxygen it contained before entering the chamber! But anyhow, why does she choose a living body rather than the usual water-weed which suffices other species of "water-boatman"?

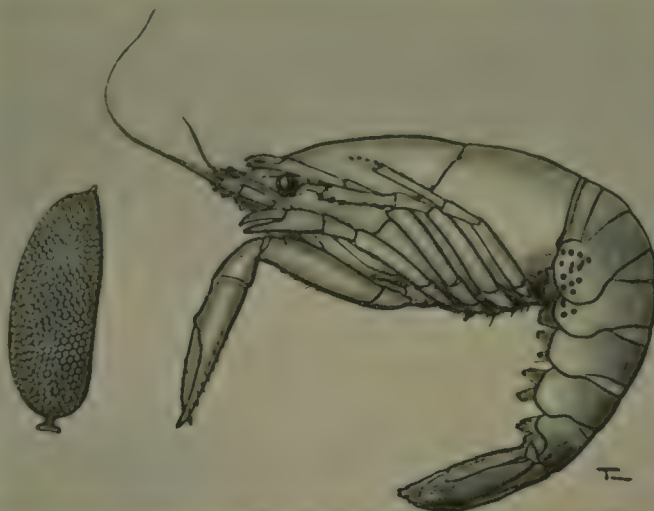
Among the tropical and sub-tropical giant water-bugs, a quite extraordinary mode of disposing of the eggs is found, and this, too, by several different species of four distinct genera. This is indeed remarkable. For here we have species differing from one another so widely as to need the formation of separate genera to contain them, yet all follow the same mode of disposing of their prospective progeny! Herein the female seizes on the male and covers his broad back with her eggs, as is seen in the adjoining photograph (Fig. 3). Being firmly glued down, he is, until they hatch, quite unable to open his wings for flight. Here is another illustration of "animated baby-carriages"! But this

is very good for the eggs, since they now receive a constant change of water, and improved aeration. Here, again, we must ask, and in vain, how did this very deliberate habit come into being? We cannot regard it as a result of profound reflection following on a very thorough conception of the advantages of "fresh air"!

In our common British water-scorpions (*Nepa* and *Ranatra*), the aeration of the eggs is after a very different fashion; for they are embedded in the leaves of water-plants so that one end projects into the water. And this, in *Nepa*, develops numerous thread-like filaments; and in *Ranatra* two very long filaments, which communicate with an air-space between the inner and outer walls of the shell of the egg, so that

the life-giving oxygen, passing through the walls of the filaments, is conveyed to the growing embryo within the egg.

The shifting of parental responsibility for the care of the eggs, or young, or both, from the female to the male is found in all kinds of animals, high and low in the scale of life, and under the most varied conditions of existence. In many cases the male has to defend either the eggs or young from the latent ferocity of the female. But instances of the reverse are just as numerous. And we can at present no more explain them than we can these very singular, and, it may seem to us, capricious, modes of the disposal of the eggs. Many attempts have been made to solve these riddles of life, but they have been, for the most part, either mere guesses at truth, or vitiated by explanations in terms of human experience.



1. A "LIVING PERAMBULATOR" FOR THE EGGS OF A "WATER-BOATMAN": THE NORTH AMERICAN CRAYFISH, *Cambarus*, ON WHOSE SIDE *Rhamphocorixa* LAYS HER EGGS, ONE OF WHICH (GREATLY ENLARGED) IS SHOWN ON THE LEFT. The eggs on the crayfish are seen on the ends of the two first half-rings of the body.

reproductive period. Hence I must be content with citing no more than three or four instances which, just now, are much in my mind in relation to problems of the fulfilment of the periodical sexual "urge," and the strange and inexplicable contrasts in intensity which they present.

In the North American fresh-water crayfish *Cambarus* (Fig. 1), a number of small dots will be seen on the ends of the band-like second and third segments of the abdomen. These are the eggs of a "water-boatman" (*Rhamphocorixa*) (Fig. 2), which, so it would seem, deliberately of set purpose chooses to



2. A "WATER-BOATMAN" WHICH ENSURES THAT HER EGGS GET A CONTINUAL CHANGE OF FRESH WATER: *Rhamphocorixa*, A SPECIES WHICH MAKES USE OF THE CRAYFISH AS A CONVEYANCE FOR HER PROSPECTIVE PROGENY.



3. WITH HIS WING-CASES FIRMLY GLUED DOWN BY THE EGGS LAID THERE BY THE FEMALE; SO THAT FLIGHT IS IMPOSSIBLE; THE MALE WATER-BUG OF MADAGASCAR (*Hydrocyrtus punctatus*).

When the female has laid her eggs on the wing-cases of the male he is unable to move them and thus finds it impossible to fly until they hatch and restore his freedom! This living repository for the eggs ensures that they receive a sufficient supply of oxygen in stagnant water.



4. A SPECIES WHICH, LIKE OTHER MEMBERS OF HER TRIBE AND OF THE TARANTULAS, CARRIES HER YOUNG ON HER BACK UNTIL THEY ARE ABLE TO FEND FOR THEMSELVES: THE ENGLISH WOLF-SPIDER (*LYCOSA AMENTATA*).

If two mothers meet, they at once start to fight and if one is killed, as is usually the case, the other adopts the family of her victim!

Reproduced by Courtesy of the British Museum. (Natural History.)

make of the crayfish a sort of walking perambulator for the conveyance of her eggs! Now this crayfish inhabits ponds where the water is stagnant, and it has been suggested that the "water-boatman"



**THE BIRMINGHAM CHARTER CENTENARY CELEBRATIONS:  
A PAGEANT OF THE CITY'S HISTORY FROM PREHISTORIC  
TO MODERN TIMES.**



EPISODE I. OF THE PAGEANT: THE DAWN OF HISTORY IN THE MIDLANDS AND THE MARCH OF CIVILISATION FROM THE TIME OF PREHISTORIC MONSTERS TO THE NORMAN CONQUEST—STONE AGE MEN HUNTING!

BIRMINGHAM CELEBRATES THE GRANT OF ITS CHARTER OF INCORPORATION A HUNDRED YEARS AGO: THE CENTENARY THANKSGIVING SERVICE IN PROGRESS IN VICTORIA-SQUARE.



EPISODE II.: THE BATTLE OF CRECY, IN WHICH MANY BIRMINGHAM LORDS AND KNIGHTS OF MANORS TOOK PART—A SPIRITED SCENE WHICH GIVES PLACE TO A PROCESSION OF TABLEAUX OF THE FIFTEENTH AND SIXTEENTH CENTURIES.



EPISODE III.: CRECY—KING EDWARD PRESENTS THE BLACK PRINCE WITH THE THREE-FEATHERED HELM WORN BY THE KING OF BOHEMIA—HENCE THE PRINCE OF WALES'S FEATHERS.



EPISODE VI.: THE PRIESTLEY RIOTS, 1791—A SCENE SHOWING THE MOB BURNING PRIESTLEY'S HOUSE, ON ACCOUNT OF HIS ADVANCED POLITICAL VIEWS; FOLLOWED BY THE FAMOUS SCIENTIST'S FLIGHT.



EPISODE II.: THE GRANT OF A MARKET CHARTER TO PETER DE BERMINGHAM IN 1156—KING HENRY II. AND QUEEN ELEANOR WITH PETER DE BERMINGHAM (ON RIGHT), WHO RECEIVED THE CHARTER FROM THE HANDS OF THE KING.



EPISODE VII.: THE VISIT OF QUEEN VICTORIA TO OPEN ASTON PARK IN 1858—THE QUEEN (MRS. M. D. BEALING), WHO IS ACCOMPANIED BY THE PRINCE CONSORT (MR. GORDON GRIERSON), KNIGHTING THE MAYOR (MR. D. B. JENKINS).

AS part of Birmingham's week of celebration of the centenary of the grant of its Charter of Incorporation, a pageant was held in Aston Park each night from July 11 until to-day (July 16). It illustrates the story of Birmingham from prehistoric times to the present day. The King and Queen were to have visited Birmingham on July 14, and his Majesty was to have opened the first section of the great Birmingham Hospitals Centre at Edgbaston and to have been present at a performance of the pageant. Owing to the King's slight illness, it was arranged that the Duke and Duchess of Gloucester should deputise for their Majesties. Their Royal Highnesses' visit will be illustrated in our issue dated July 23.

PHOTOGRAPHS BY WIDE WORLD, CENTRAL PRESS, G. DAWSON, AND "BIRMINGHAM GAZETTE."



## A WINDOW ON THE WORLD: PICTORIAL NEWS FROM VARIOUS QUARTERS.



IN JERUSALEM DURING THE WAVE OF INTENSIFIED TERRORISM: AT ZION CORNER, ON THE JAFFA ROAD, IN THE JEWISH QUARTER; SHOWING NUMEROUS POLICE ON DUTY. After months of lawlessness in Palestine, with ten or twelve people being killed a week, a far worse series of outrages broke out recently, necessitating the despatch of considerable bodies of British troops and warships. The following are typical of events in Jerusalem. On July 7 a home-made bomb was thrown from a housetop into the Arab vegetable market in David Street, near where two Jews had previously been shot dead. One Arab was killed by the explosion and



THE ARMY STEPS IN TO HELP THE POLICE IN THE ARDUOUS WORK OF KEEPING ORDER: MEN OF THE BLACK WATCH ON DUTY OUTSIDE THE JAFFA GATE, JERUSALEM. On July 8 four Arabs were killed, seven seriously wounded, and many others hurt when a bomb exploded and destroyed an omnibus in the crowded Arab omnibus park outside the Jaffa Gate. Men of the Black Watch were called in to aid the police in patrolling the streets. Naturally, such conditions imposed a great strain on the police, some of whom were on duty for 16 or 18 hours daily.



MUSIC FROM THE AIR BY MEANS OF WHISTLES ATTACHED TO PIGEONS!—A STRANGE CHINESE INVENTION EXHIBITED IN THE FIELD MUSEUM, CHICAGO.

One of the strangest ideas that ever sprang from the ingenious Chinese brain was that of having music sound from the air by means of whistles attached to the tails of pigeons. This example of a bird fitted with such whistles is on exhibition in the anthropological section of the Field Museum, Chicago. The whistles were made from reeds and small gourds and sometimes had as many as eight pipes.



A LIVELY INSPIRATION FOR SEA-MONSTER TALES: A PHOTOGRAPH OF TWO PORPOISES DISPORTING THEMSELVES GROTESQUELY IN THEIR POOL AT MARINELAND, FLORIDA—ONE OF THEM IN THE ACT OF SWALLOWING A FISH. (Wide World.)



BUCKINGHAM PALACE GUARDED BY TERRITORIAL TROOPS—FOR THE FIRST TIME: THE CEREMONY WHEN THE H.A.C. TOOK OVER FROM THE SCOTS GUARDS.

At the Court held at Buckingham Palace on July 6 the Guard of Honour outside the Palace was provided for the first time by a Territorial unit—the Honourable Artillery Company. In the morning the King, who is Captain-General of the Corps, had watched the guard-mounting ceremony, when khaki-clad men of the H.A.C. relieved the 2nd Battalion, Scots Guards. Great smartness was shown by the H.A.C., whose ranks include stockbrokers, bank clerks, and other City men. (S. and G.)



THE FUNERAL OF Mlle. SUZANNE LENGLEN, THE FAMOUS TENNIS PLAYER: THE HEARSE FOLLOWED BY BOYS AND GIRLS FROM THE CLASSES FOUNDED BY HER. The funeral of Mademoiselle Suzanne Lenglen, the great French tennis star, took place at the Church of Notre Dame de l'Assomption, at St. Ouen. There were wreaths from the King of Sweden, and numerous English, Belgian, and, of course, French, associations. The hearse was followed by children from the classes founded by Mlle. Lenglen. Funeral addresses were given by M. Pierre Gillou, on behalf of the International Federation of Lawn Tennis, M. Jean Borotra, and M. Sabelli, representing the L.T.A. (Keystone.)



# THE CAMERA AS RECORDER: POLITICAL, AERONAUTICAL AND MILITARY NEWS IN PICTURES.



SIGNOR MUSSOLINI AS HARVESTER: IL DUCE THRESHING; BARE TO THE WAIST AND WEARING A DECORATED PEASANT'S HAT AND GOGGLES. (L.N.A.)

On July 4 Signor Mussolini made a short, but somewhat bitter, speech from the platform of a threshing machine at Aprilia, the latest township to be formed in the reclaimed Pontine marshes. He referred scornfully to predictions stated to have been made abroad of a bad harvest in Italy, and said "I confirm that the wheat harvest of the year 1938 is better in quality than last year and only a little inferior in quantity." His remarks were welcomed with applause by the peasants and black-shirts massed around him. After his speech, Signor Mussolini shouted, "Comrade engine-driver, start the engine! Peasant comrades, the threshing begins!" He had already removed his shirt and thus stripped to the waist, he began to thresh corn.



SIGNOR MUSSOLINI VINDICATES THE QUANTITY AND QUALITY OF THE ITALIAN HARVEST: A PHOTOGRAPH TAKEN WHILE HE WAS SPEAKING AT APRILIA IN THE PONTINE MARSHES—SHIRTLESS, AMONG THE ASSEMBLED PEASANTS AND FASCISTS. (Wide World.)



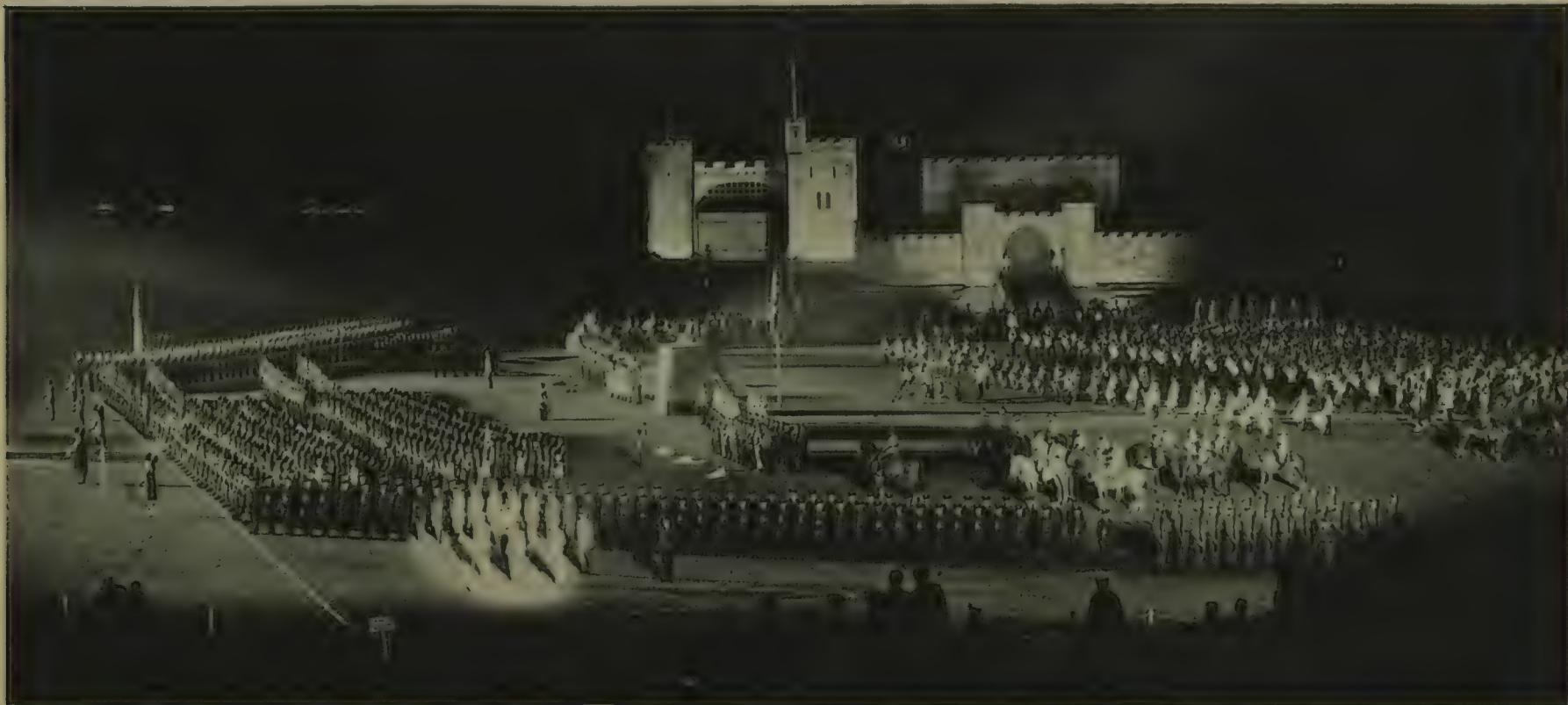
A NEW RECORD SET UP BY THE R.A.F. FOR A NON-STOP FORMATION FLIGHT: THE TYPE OF MACHINE USED—A VICKERS WELLESLEY BOMBER.

On July 8 four Vickers Wellesley bombers of the R.A.F. Long-Range Development Unit completed a flight of 4300 miles to the Near East and thus set up a new record for the longest non-stop formation flight. In the past flights have been made from Dakar, West Africa, to Port Natal, Brazil, a distance of some 1800 miles, by an Italian Air Force unit and from San Diego, California, to Hawaii (2570 miles) by U.S. naval bombers. (Charles Brown.)



MR. HOWARD HUGHES INSPECTING HIS MACHINE IN PARIS AFTER HIS RECORD FLIGHT FROM NEW YORK AND BEFORE SETTING OFF TO COMPLETE A WORLD-CIRCUIT.

Mr. Howard Hughes, the American airman and film-producer, arrived in Paris on July 11, having flown the Atlantic, with four companions, in record time for the New York-Paris crossing (16 hours 31 mins.); beating the 33 hours 30 mins. taken by Colonel Lindbergh in 1927. Mr. Hughes was out to fly round the world. As we go to press, he is reported to have left Moscow, and to be well ahead of Wiley Post's round-the-world time. (Keystone.)



A PICTURESQUE SCENE DURING THE SEARCHLIGHT TATTOO OF THE NORTHERN COMMAND: THE PERFORMERS MASSED IN THE ARENA IN ROUNDHAY PARK, LEEDS, FOR THE GRAND FINALE OF AN EVENT WHICH CAN COMPARE WITH THE MILITARY SPECTACLES PRESENTED AT TIDWORTH AND ALDERSHOT.

The Searchlight Tattoo of the Northern Command was held this year (July 8-16) for the fourth time in succession in Roundhay Park, Leeds. The Northern Command has one division to Aldershot's two and, in addition, a brigade has been taken from it to serve in Palestine. In spite of this handicap, the excellence of the performance could compare with that of Tidworth or even

Aldershot. Included in the events were trick-riding on motor-bicycles by men of the Royal Corps of Signals; a mock battle; a "Siege of Toyland" by fifteen-year-old enlisted boys of the Royal Corps of Signals; and drill displays by the Camerons and Cameronians. All the performers were massed in the arena for the grand finale. (L.N.A.)



## ASPECTS OF THE WORLD OF ART: OLD AND NEW MASTERPIECES FROM HOME AND ABROAD.



A VERY FINE EXAMPLE OF CARPET-BEDDING: A "CRICKET" FLOWER-BED PLANTED ON THE LEAS AT FOLKESTONE TO WELCOME THE AUSTRALIAN TEST TEAM TO THE TOWN. In honour of the town's Cricket Festival on September 3 and 5-9 and to welcome the Australian Test team when they visit Folkestone on that occasion, a flower-bed on the Leas has been planted with 60,000 plants of varying colours, to form a "Test" design. Included in the pattern are the flags of Great Britain and Australia; the lion and the kangaroo; the initial letters of the two countries; and (in the centre) a game in progress. (*Wide World.*)



A SILVER CASKET PRESENTED TO PRINCESS ELIZABETH: QUEEN MARY ACCEPTING THE GIFT FROM LORD BRADBURY, PRIME WARDEN, AT GOLDSMITHS' HALL.

On July 8, Queen Mary visited the exhibition of modern silverwork at Goldsmiths' Hall and accepted from Lord Bradbury, Prime Warden of the Goldsmiths' Company, a silver casket for presentation to Princess Elizabeth. This bears frolicking lambs symbolising youth and a rose and thistle design. A leopard's head—the hallmark of the Goldsmiths' Company—is also engraved on it. Two students of the L.C.C. Central School of Arts and Crafts designed and made it. (*Keystone.*)



Left: AN AMERICAN MEMORIAL TO KING GEORGE V.: DETAIL FROM THE WINDOW RECENTLY UNVEILED IN WINCHESTER CATHEDRAL BY THE UNITED STATES AMBASSADOR.

The United States Ambassador arranged to unveil in Winchester Cathedral, on July 12, a memorial window to King George V. presented by Americans. The principal subject of the window, which was designed by Mr. Hugh Easton, is the Sovereignty of Christ. The central upper light is based on the vision of the Rider on the White Horse, described in the 19th chapter of the Apocalypse of St. John. On either side of this light stands a royal figure—on the left Edward the Confessor, and on the right William the Conqueror. Below are shields—on the one side the cross and martlets of Westminster and on the other the two lions of William the First's Norman Duchy. In the centre are the Royal Arms; and the whole heraldic composition is encircled by the roses of England. In the lower right-hand corner of the window is represented King George himself, kneeling and in the robes of the Garter.



THE REOPENING OF RHEIMS CATHEDRAL: A COPY OF JOAN OF ARC'S BANNER GIVEN INTO THE ARCHBISHOP'S KEEPING BY THE BRITISH DELEGATION.

In connection with the reopening of Rheims Cathedral (see the facing page), the copy of Joan of Arc's banner which was worked in England and presented to the President of the Republic six years ago by the British Ambassador was handed over to the Archbishop's keeping by the British delegation to the ceremony, and during the service it was placed near the high altar. The banner is shown in the above photograph carried by a Boy Scout. (*Planet.*)



PRESENTED TO THE BRITISH MUSEUM BY THE CHINESE GOVERNMENT: A MARBLE STATUE OF AMITABHA BUDDHA.

An impressive feature of the Chinese Exhibition at Burlington House in the winter of 1935-36 was this immense white marble statue of Amitabha Buddha (illustrated in our issue of December 7, 1935). It has remained in the cellars of Burlington House since the Exhibition closed and has now been acquired by the Chinese Government and presented to the British Museum as a token of friendship between the two countries. (*Central Press.*)



Left: A "NOTABLE ANTIQUITY" AT THE BRITISH MUSEUM: THE KINGSTON BROOCH.

The fifth exhibit in the British Museum series, of "Notable Antiquities" is a brooch found at Kingston, Kent, and lent by the Free Public Museums, Liverpool, for temporary exhibition. It is work of the sixth or seventh century A.D. and comes from a Jutish cemetery. It is the finest piece of Kentish cloisonné jewellery in existence.

Right: ACQUIRED BY THE FITZWILLIAM MUSEUM, CAMBRIDGE: A MILANESE PAGEANT HELMET.

On another page in this issue we show the front aspect of this fine Milanese pageant helmet, recently acquired by the Fitzwilliam Museum, Cambridge, with the aid of the National Art-Collections Fund. In this photograph the skull, embossed with nymphs and trophies in the vigorous style of the High Renaissance, can be studied.







THE REOPENING OF FRANCE'S SHRINE—MUCH DAMAGED DURING THE WAR: RESTORED RHEIMS CATHEDRAL; WITH THE REPLICA OF JOAN OF ARC'S BANNER BROUGHT FROM ENGLAND BORNE BEFORE THE CENTRAL DOOR.

Rheims Cathedral, much damaged by bombardment during the war, and now restored, was reopened again for public worship on July 10. Cardinal Suhard, Archbishop of Rheims and, for the period of the ceremonies, Papal Legate, celebrated a Pontifical Mass at the High Altar, in the presence of President Lebrun, members of the Diplomatic Corps, and many foreign visitors, including

Cardinal Hinsley, Archbishop of Westminster. The Archbishop of Rheims was accorded the honours due to a visiting sovereign Prince, and the Tricolor and the Papal Flag were flown together before the Cathedral. Many donations from Great Britain, Norway, and Denmark, as well as a liberal gift from Mr. John Rockefeller, have gone towards the restoration of the Cathedral. (*Planet.*)



## BOOKS OF THE DAY.

NO doubt the Jacobite Rebellion, although subsequent to the demise of Queen Anne, is quite as defunct as that monarch. Lingered echoes of the movement, however, are still audible in current literature, and presumably writers who refer to the Old Pretender (as we were taught to call him at school) by the title of "King James III.", would be consistent in continuing the claim to his descendants, and his son, "bonnie Prince Charlie," might accordingly be "King Charles III." For my part, I might be accused of Jacobite tendencies, since I happen to bear the same Christian names as that Prince of Romance; a fact which, in early youth, naturally earned me the nickname of "the Young Pretender" in domestic circles. With such predisposition towards the Stuart cause (though I hasten to add that it has never led me into any subversive activities!), I approach a noteworthy book about the second Jacobite rising—"1745 AND AFTER." By Mistrail Tayler and Henrietta Tayler, joint-authors of "1715: The Story of the Rising." With 10 Illustrations. Nelson: 12s. 6d.)

Referring to the document which forms the bulk and *raison d'être* of the book, Miss Tayler says: "This most interesting MS., entirely in the handwriting of O'Sullivan (found among the *Stuart Papers* at Windsor), is bound in a slim volume and lies among the Warrant books, etc., which form part of the Collection brought to England after... the death of Cardinal York, the last of the actual Stuart line, in 1807. . . . Sullivan's MS., not being with the rest of the letters, appears to have escaped the attention of Andrew Lang and the few other Jacobite historians who have sought inspiration and data among the letters, with the sole exception of Major Eardley Simpson, who, in his *Derby and the Forty-five*, makes one allusion to it. It throws a good deal of light on the daily incidents of the Prince's campaign of 1745 and his wanderings, as well as on the last despairing effort of the Jacobite cause, which was finally extinguished by Hawke's victory at Quiberon Bay, 20th November 1759. The MS. is here printed by the gracious permission of His Majesty."

The author of the re-discovered document, John William O'Sullivan, was an adventurous Irishman, recommended to Prince Charles by his father, James III., and was one of the "Seven men of Moidart" who landed with the Prince at Loch Nan-uamh on 25th July (O.S.) 1745, and thus became the nucleus of the Highland army. O'Sullivan was born in County Kerry about the year 1700. As a youth he spent

some years in France and Italy, obtained a commission in the French Army, and gained experience of irregular warfare in Corsica and Italy, serving later on the Rhine. On being chosen for the Scottish adventure by Prince Charlie's father (who afterwards knighted him, and for whom he wrote his narrative), he soon gained the Prince's confidence and regard. Some of the Prince's Scottish adherents, however, disliked the Irish "interloper," and considered him incompetent. In particular, there was bitter hostility between him and the Jacobite general, Lord George Murray. Their comments on each other make piquant reading. Evidently, however, O'Sullivan was a man of agreeable character, genuinely devoted to the Prince, and loyally helpful to him during his vicissitudes and perils after Culloden, while the Prince reciprocated by personally tending him when disabled by illness. It was O'Sullivan who, escaping to the Netherlands and thence to Versailles, persuaded Louis XV. to send the rescue-party that brought the Prince back safely to France.

Part I. of the book, running to nearly 200 pages, consists of the document itself, headed "O'Sullivan's narrative, addressed to King James in Rome—written in 1747," and is accompanied by a folding map of the Prince's wanderings. Part II. contains letters of O'Sullivan of later date than the narrative (all from the "Stuart Papers" at Windsor), which continue the story from the time O'Sullivan parted with the Prince, and show his efforts to rescue his master, as well as all that is known of his own later life. Both these sections are valuable as first-hand historical evidence. The careful annotations throughout enhance the interest, as also do the illustrations, taken mostly from contemporary prints.

The best way to indicate the quality of O'Sullivan's narrative will be to quote a typical extract, and I choose one relating to the famous adventure with Flora Macdonald. It occurred shortly after the Prince had separated from O'Sullivan, much to the latter's grief and protestations. After the rescue, however, the two met again in Paris, and the story of events since their parting is told as "taken down by O'Sullivan from the Prince's own lips." "When I parted from the Isle of Wight," Prince Charlie began, "with a design to go to the Isle of Sky, . . . I had my project in head some time before, in case I was set to a pench & as it happened yt I was obliged to set it in execution Lady Glenrarnold procured me a Shute of Womens Cloaths, & engaged Misse Flory McDonel to go along with me; I was to passe as her maid. I cou'd not dresse before I got to the boat, the petty coats being to short, Misse Flory found some means to lengthen ym & dresse while we were at Sea, so I was as yu may believe a servant maid of a good size."



A NEW STANDARD PRESENTED TO THE KING'S BODYGUARD OF THE YEOMEN OF THE GUARD BY HIS MAJESTY: THE CEREMONY OF CONSECRATION. The Yeomen of the Guard have been without a Standard for more than a hundred years. The new Standard is of crimson damask with the royal badge of the rose, thistle and shamrock combined in the centre with the cipher "G.R." In the corners are the badges of the royal houses of Tudor, Stuart, and Hanover. On one side is the date of the foundation of the corps, 1485, and on the reverse the date 1938. *Wide World.*



THE PRESENTATION OF A NEW STANDARD TO THE YEOMEN OF THE GUARD BY THE KING: HIS MAJESTY HANDING THE STANDARD TO A KNEELING OFFICER.

The King presented a new Standard to his Bodyguard of the Yeomen of the Guard at Buckingham Palace on July 5. The corps, which was founded in 1485 by King Henry VII., is the oldest armed body under the Crown. The former Standard was destroyed in a fire at the Guard headquarters at St. James's Palace in 1809. (P.N.A.)

Prince Charlie's ill-fated expedition, falls into its niche in the general history of the period in a new study of the monarch then occupying the throne on which the Prince hoped to place his own father. I refer to "A KING IN TOILS." By J. D. Griffith Davies. With 9 Illustrations and a Map illustrating the war in America (Lindsay Drummond; 12s. 6d.). The author gives a spirited account of the Prince's campaign, and also of the naval battle in Quiberon Bay, fourteen years later, mentioned above as the final blow to Jacobite aspirations. Admiral Hawke is described as "the man who had won the greatest naval victory since the Armada, and, what was of vital importance, had ruined Choiseul's plan to invade England."

As already noted, the episode of "the forty-five" occupies only a relatively small space in the book, which gives a general account of the second George's career, with his domestic vicissitudes sandwiched in between political affairs. The implications of the title, from which, perhaps, one might have expected the King's personal story to loom larger than it actually does, are indicated by the author in his own explanation of his work. "It is not a biography," he writes, "but rather a record of

'relationships' in the life of George II. . . . From the cradle to the grave he was dominated by a succession of masterful personalities. As a boy and young man he suffered the tyranny of an unloving and unlovable father: as Prince of Wales he was execrated by a suspicious King, and ignored by self-seeking ministers. Kingship brought him few enchantments. For ten years the masterful Walpole, assisted by the brilliant Queen Caroline, had him in toils. . . . The domination of Carteret and the Pelhams followed; and then came that of 'the terrible Mr. Pitt.'"

Among other occurrences in George II.'s time, Mr. Davies recalls one which, in some respects, sounds topical at the present day, the famous case of a British skipper, Robert Jenkins, whose ear was cut off by order of a Spanish coast-guard ship's commander. The present year, in fact, might be called the bi-centenary of Jenkins' ear. "In March 1738," we read, "at the instigation of opposition members, he [Jenkins] produced it at the bar of the House of Commons during his examination as to the depredations of Spaniards on the other side of the Atlantic. . . . The opposition meant to use Jenkins' ear to force Walpole into war. . . . Up and down the land men clamoured for war against the cursed Spaniards who dare to interfere with British sailors on their lawful occasions and to insult the flag under which they sailed; and neither argument nor reason would have convinced this war-inflamed public opinion that British merchants, greedy for a share of the lucrative trade with the Spanish colonies in America, had brought much of the trouble upon themselves."

To-day bonnie Scotland claims our interest more than ever through the great Exhibition at Glasgow. Having begun with an echo of her adventurous past, I will end by naming some very attractive books picturing her modern aspect. Scottish architecture, with its rugged quality in keeping with the land, is described and beautifully illustrated in "THE STONES OF SCOTLAND." Edited by George Scott-Moncrieff. With Other Contributions, Coloured Frontispiece and 163 Photographs (Batsford; 10s. 6d.).

Visitors to Glasgow will find the Firth of Clyde a convenient starting-point for voyaging among the lochs and islands they have seen from the top of Tait's Tower in Bellahouston Park. A very alluring book, especially for yachtsmen, is "WEST COAST CRUISING." By John McLintock. With Maps, Sketch Maps and Plates (Blackie; 10s. 6d.). In the

course of his narrative the author describes vividly the maritime side of Prince Charlie's adventure and also recalls Dr. Johnson's meeting with Flora Macdonald. This volume contains many charming topographical photographs. So also does a new edition to the well-known Shell Guides, "THE WEST COAST OF SCOTLAND," Skye to Oban. By Stephen Bone. With Coloured Maps (Batsford; 2s. 6d.). Indispensable to motorists going north of the Tweed is "THE ROAD BOOK OF SCOTLAND." With Touring Survey, Sporting Facilities, Gazetteer, Itineraries, Maps, Town Plans, and Ferries. (Published by the Automobile Association; 8s. 6d.). Personal experiences of a yachtsman cruising in Scottish waters are entertainingly described in "OFF IN A BOAT." By Neil M. Gunn. Illustrated (Faber; 10s. 6d.).

Two new illustrated volumes of the Sportsman's Library, both by P. K. Kemp, Lieut.-Commander, R.N. (Ret'd.), are entitled respectively "SAILING. I. CRUISING," and "SAILING. II. RACING" (Black; 5s. each). The special needs of beginners and owners of small craft are served in a compact little volume called "YACHTS, YACHTING AND SAILING." Compiled, Edited, and all Flags Drawn by Paymr. Lieut.-Commander E. C. Talbot-Booth, R.N.R. Illustrated (Sampson Low; 7s. 6d.). Here in a small space is a vast deal of information. Another handy little reference-book on seafaring matters, on rather similar lines, but wider in scope—covering warships and liners as well as yachts—is "ALL ABOUT SHIPPING." A Handbook of Popular Nautical Information; with numerous Diagrams, Plans and Illustrations. Edited by Edwin P. Harnack. Seventh edition (Faber; 7s. 6d.). The illustrations include several colour-plates of famous ships, among them the "Cutty Sark," now much in the news. C. E. B.



## ONCE A "PROP."; NOW TREASURED IN A MUSEUM: A FIND MADE IN LONDON.



BOUGHT BY THE FITZWILLIAM MUSEUM, CAMBRIDGE: AN UNUSUALLY EXCELLENT SIXTEENTH-CENTURY MILANESE PAGEANT HELMET, WITH A VISOR SHAPED LIKE A LION'S MASK, DISCOVERED AT A SALE OF UNWANTED OBJECTS.

Those responsible for the new Gallery of Armour in the Fitzwilliam Museum, Cambridge, which was opened by Earl Baldwin in 1936, recently made their first acquisition since the inauguration. With the aid of a grant from the National Art-Collections Fund, they have purchased a particularly fine example of the armourer's craft—a parade helmet of the sixteenth century, with the visor modelled in the shape of a lion's mask and the skull embossed with nymphs and trophies in the vigorous style of the High Renaissance. The consummate workmanship and the choice of the ornament indicate the brothers Paolo and Filippo Negroli, of Milan, as its makers. This helmet represents the peak of the armourer's craft, before the decline set in during the second half of the sixteenth century, and closely resembles one which belonged to Charles V.'s son, the Archduke Ferdinand of the Tyrol, a piece, now in

the Imperial Armoury at Vienna, known from the inventory drawn up in 1596 as "Der Haube mit dem Löwengesicht." The Archduke must have been particularly proud of this helmet, for it appears in his portrait on the title-page of the large folio book of drawings of famous men by Francesco Terzio. The Fitzwilliam casque differs in the decoration of the comb, which includes a Greek motto, ΤΑΥΡΑΕΙΣ'ΗΑΡΟΣ' ΑΣΤΕΡΑΣ ("Thou walkest proudly before the stars"), damascened in gold. The finding of this helmet is one of the romances of the art world in recent times. The story runs that it appeared at a sale of theatrical properties in London, where it might well have been sold only to disappear in the way that unwanted theatrical properties do! Fortunately, it was noticed by a small trader, who purchased it on the chance of its being something out of the ordinary and brought it to its late owner.





## A PAGE FOR COLLECTORS.

CHINESE PORCELAIN FIGURES.

By FRANK DAVIS.

ONE could write a very learned and execrably dull treatise upon the colour-sense of the English—a fine quarto monograph, with ten lines of text and twenty of

the gramophone Bach's "Little" Fugue in G minor. Picture, sculpture and fugue alike raise one to the seventh heaven. I have also seen a Boucher portrait and listened to Noel Coward's songs from "Bitter Sweet"; neither portrait nor songs moved me in the least, but they were pretty and restful and amusing. So are these figures, notable bits of craftsmanship all, agreeable decorations, entertaining nonsenses, and—here we really are arriving at a conclusion—the more colour in them the better. From which it appears that colour is by no means necessary of itself to touch the heart, though, of course, it can in the hands of a great master, but it is uncommonly efficacious when used by lesser men to raise the spirits.

Now, Chinese art in its earlier phases could sometimes be as noble as Bach, as austere as Rembrandt; by the seventeenth and eighteenth centuries it became as graceful as Boucher, as sparkling as Noel Coward, brilliant decoration to the pattern of life, and that's all there is to it. So what am I to reply to a complaint from Sweden that this page is too often occupied by frivolities? Simply this: that the ingenuity of man as expressed in the work of his hands has many facets, and that if his visions of heaven are enthralling, his pictures of earth are at least interesting; and that, anyway, it's no bad thing to relax occasionally. Bach for breakfast, Bach for lunch, tea and dinner is no régime for anyone but a fanatic.

The great glory of Chinese porcelain is its colour: to this the experiments of generations were directed, and this is its contribution to ceramic art, once the secret of making porcelain at all had been discovered. The recent sale at

Christie's of the Goldschmidt collection, to which these illustrations belong, was a remarkable instance of the compelling public appeal of this period of Chinese achievement in spite of all the emphasis given in recent years to the more serious work of previous centuries. Mr. Gladstone, I am told, great man though he undoubtedly was, had no small

quality comes out even in a monochrome reproduction. A description is a poorish substitute for the original, but here it is. Fig. 1—black horse, mane and tail aubergine, package and trappings green, aubergine and pink; warrior's coat green, his breeches yellow, his shoes black; a little hard thinking will perhaps bring this entertaining and singularly lovely combination of tones vividly before the eyes. Direct representations of Nature, though outvying Nature with their pink and white enamel colours, are the two ducks of Fig. 2—in "Famille Rose"—while a somewhat forced adaptation of ducks to the form of a wine ewer (Fig. 3) belongs to an earlier reign. The colours are green and yellow with touches of aubergine. From a purely technical point of view these pieces are as near perfection as one can get; just think of the horrible accidents that can befall such delicate models, accidents to the model itself in the kiln, faults of painting, of glazing,



1. THE CHARM OF EIGHTEENTH-CENTURY CHINESE PORCELAIN: AN EXAMPLE OF THE YUNG CHENG PERIOD (1723-1735)—A HORSE AND WARRIOR DECORATED IN "FAMILLE ROSE" ENAMEL. (6½ IN. HIGH.)

The warrior wears a green coat, yellow breeches, and black shoes. The horse is enamelled black, with mane and tail of light aubergine, while the package and trappings are green, aubergine and pink.

notes to a page, all bound in the best morocco; but that, I am afraid, would not be received with much favour. Anyway, here is the gist of it—we are not, and never have been, colourists in the sense that the Flemish, the French, and the Italians have been colourists. For proof, set the best French pictures of any period against the best English—compare, say, Gainsborough and Reynolds with Fragonard and Drouais. The odd thing is that just when our clothes were gayest we covered our walls with monochrome prints, from which you can argue that our eighteenth-century ancestors were sure of themselves and by no means afraid of dark patches on their walls. For many years now, and certainly since the war, the average buyer of works of art has demanded colour—a red coat on a man in preference to a black coat, and so forth—and many people think that this is because the world outside generally looks dark anyway, and he is determined to have brightness at home. If you are feeling hearty you can argue that your fellow-men are a drab lot deep down inside and need all the external colour they can find; that they must have it in order to escape from themselves; that if their hearts are grey all the more reason for them to run about and paint the town red; that only the genuinely miserable plunge into gaiety; all of which suggestions take one into rather deep water, and there's nothing very deep about the illustrations on this page. The point I want to make is this: that a lot of people appear to be under the impression that works of art (and these figures are undoubtedly works of art) possess all and sundry a mysterious quality which should only be discussed in Capital Letters and/or Hushed Whispers, that they all have some profound spiritual message for the world. It seems odd to me that such confusion of thought can exist, but that it does is obvious from what I hear and read. It so happens that to-day I have seen a Rembrandt at the Sabin Gallery and some sculpture by Despiau at Wildenstein's; I have just put on



3. DATING FROM THE LATE MING PERIOD (1368-1644) OR EARLY K'ANG HSI (1662-1723): TWO DUCKS FORMING A WINE EWER AND COLOURED GREEN AND YELLOW, WITH TOUCHES OF AUBERGINE. (7½ IN. HIGH.)

talk: Chinese Art as a whole is indubitably great, but—unlike Mr. Gladstone—it had a fund of small talk which makes it an entertaining companion, whatever one's mood; and these things are its small talk, brilliant, and entertaining, but not on any account edifying; just superficialities supremely well done. Something of their



2. NATURALISTIC IN FORM THOUGH UNNATURAL IN COLOUR: PORCELAIN FIGURES OF DUCKS OF THE YUNG CHENG PERIOD OR EARLY CH'EN LUNG (1736-1796), IN "FAMILLE ROSE" ENAMEL. (11 IN. HIGH.)

The figures are mostly enamelled in pink and white, with feather markings in black, heightened with blue. The legs and feet are yellow.



4. AN EXAMPLE OF NATURAL COLOURING IN CHINESE PORCELAIN: A FIGURE OF A WOLF, OF THE K'ANG HSI PERIOD. (16 IN. HIGH.)

(Reproductions by Courtesy of Messrs. Christie.)

reign of Yung Cheng into "Famille Rose," when, "the old translucent enamels of limited range are replaced by an extended palette of opaque colours."

of "fixing" under heat—of even something so common as poor colour sense on the part of the painter. These later porcelains lack something of the dignity and robust form (and robust, though limited, colour schemes) of the fifteenth, sixteenth and seventeenth centuries, but make up for it by an extraordinary control of the manufacture at every stage, so that there seems to be nothing in Nature or art that the eighteenth-century potters could not imitate. Their faults—such as they are—are those of over-elaboration and a sometimes finicking perfection—when you see large numbers of plates and dishes and cups together you begin

to pine for the broader style of the previous century and before. But, as I say, the things were made—like a new Paris hat—to give immediate pleasure to the eye, not to purge the soul, and as such they must be judged, not by the standards we rightly apply to Michaelangelo.

Perhaps a definition or two will be of use to not-yet collectors. Would I write down, I was asked the difference between "Famille Verte" and "Famille Rose"? The terms were coined by the French to denote the most obvious difference between the porcelains of the reign of K'ang Hsi (1662-1723), and those of the remainder of the eighteenth century. They do not mean that the porcelains are green or rose, but that in the first the combinations of three or five colours have green predominating. This "Famille Verte" type changes in the



## A LONDON SALE OF HISTORIC FRENCH ROYAL PICTURES:

A BAYONETED MARIE ANTOINETTE; THE TRAGIC "DAUPHIN DU TEMPLE";  
VAN DYCK PORTRAITS OF TWO QUEENS.

IN THE SALE OF PICTURES FROM THE COLLECTION THAT FORMERLY BELONGED TO THE FRENCH "PRETENDER," THE COMTE DE CHAMBORD: "LE DAUPHIN DU TEMPLE," THE SON OF LOUIS XVI. (25 X 21 in.)



A HISTORIC PORTRAIT OF MARIE-ANTOINETTE: THE PAINTING BY VIGÉE LE BRUN, WHICH WAS BAYONETED BY REVOLUTIONARIES IN THE TUILERIES, AND HAS BEEN DECLARED TO BE "A SPEAKING LIKENESS." (36 X 26½ in.)



"MARIE DE' MEDICI, HOLDING SOME CARNATIONS"; BY SIR A. VAN DYCK. (70 X 44 in.)



"QUEEN HENRIETTA MARIA": A MAGNIFICENTLY PAINTED PORTRAIT OF CHARLES I.'S FRENCH CONSORT WEARING A MEDALLION OF THE KING; BY VAN DYCK. (40 X 31½ in.)

At Messrs. Sotheby's, on July 20, will be sold by auction those pictures and drawings from the collections of the Royal House of France, which were at the Schloss Frohsdorf, Lower Austria. These derive their interest not only from their artistic value, but from their association with the Royal House of

France, and, more particularly, with that celebrated figure, the Comte de Chambord. The Comte became head of the Royal House of France in 1844. In 1851 he inherited the Castle of Frohsdorf; and he lived there until his death in 1883. He himself enlarged the French Royal Collections.



## A.R.P. APPLIANCES FORESHADOWED: FIRE-ENGINES INVENTED BY AN ARTIST.

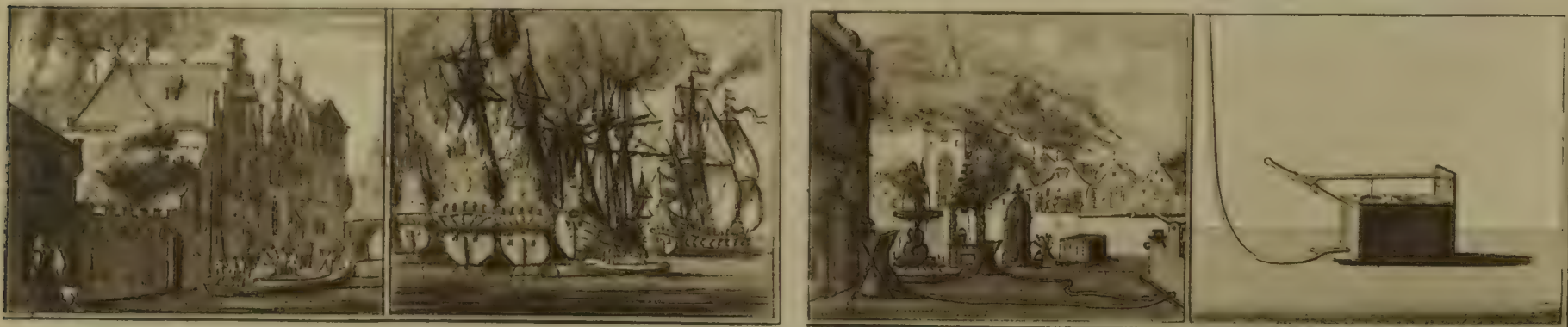
REPRODUCTION BY COURTESY OF MESSRS. P. AND D. COLNAGHI. (COPYRIGHT RESERVED.)



JAN VAN DER HEYDEN, WHO WAS ALSO PUBLIC FIRE MASTER OF THE AMSTERDAM BRIGADE, DEPICTS HIS NEW METHOD OF SUBDUING FIRES IN USE: A LATE-SEVENTEENTH-CENTURY PRINT, SHOWING THE GENESIS OF AN APPLIANCE WHICH IS ESSENTIAL IN A.R.P. ORGANISATION TO-DAY.

A translation of the key to the above engraving runs: "A represents the syringe [i.e., the pump] and its use—B. The sack into which the water is poured—C. The hose by which the water in the

sack runs to the syringe—E. The hose by which the water is carried to the scene of the fire—F. The tube at the end of the hose, by which water is projected at the seat of the fire."



OTHER USES TO WHICH VAN DER HEYDEN SUGGESTED HIS FIRE-FIGHTING DEVICE (L. TO R.) THE FIRE-ENGINE BEING USED FROM A BOAT ON A CANAL; ITS USE IN FROM A DISTANCE; AND A SMALL "HOUSEHOLDER'S MODEL"

MIGHT BE ADAPTED: FOUR VIGNETTES FROM HIS ENGRAVED "PROSPECTUS," SHOWING EXTINGUISHING FIRES AMONG SHIPPING IN HARBOUR; METHODS OF COLLECTING WATER (ALL ENLARGED IN PROPORTION TO THE PRINCIPAL ENGRAVING).

The history of art contains many instances of painters who have shown ingenuity in other spheres than their own, but Jan van der Heyden must surely be the only artist of repute who ever held the post of fire-brigade superintendent in a large city. Van der Heyden was an architectural painter of great accomplishment—he is represented by a number of works in the National Gallery, including a "Street in Cologne" and "Gothic and Classic Buildings." His mastery of perspective and the delineation of architectural features is plainly apparent in this engraving, which was executed by Stoependaal. Van der Heyden was born at Gorcum in 1637, and his only instruction appears to have been a few desultory lessons from an unknown glass-painter. Later, after his natural genius for architectural subjects had revealed itself, he travelled in Germany, Belgium, and England. He died at Amsterdam in 1712. In 1669 Van der Heyden was appointed to undertake street-lighting in Amsterdam, and in 1672 invented a new type of fire-hose and a new method of extinguishing fires, upon which he was made Public Fire Master. In 1690 he published a book describing his inventions. The original of the engraving reproduced here is accompanied by a quaint description of great length, which space prevents us from reproducing in full. It begins, however: "The newly invented fire-engines (literally 'syringes') fitted with hose-pipes are adapted to directing water continuously and in heavy jets upon the fiercest part of a fire, and of putting it out . . . in whatever way the fire may occur; whether in streets, blind alleys, back premises, very high buildings, or inaccessible spots, without breaking down walls, and without having to wait until the fire has itself made an opening by which the heart of the conflagration can be reached, having regard to the fact that the water is forced to the spot by a long flexible tube, which can be lengthened or shortened as required, and can be

introduced straight or curved through doors, windows, holes in the roof or the walls, as well as over, or through, houses, towers and churches, to the spot where the conflagration takes place, the end of the 'syringe' being brought right up to the fire, or alternatively, the fire being beaten down, until not a spark remains, by continual hosing. This process of extinction can be rapidly begun, since only five or six persons with horses are required to bring the fire-engine to the scene of the fire, where fifteen or sixteen men are enough to work it, and four or five others to fill it with water, which can be furnished to the pump continuously in large quantities, even though the pump is placed at a distance from the spot where the water is drawn. . . . These fire-engines are, in addition, suitable for use on board warships and large vessels, both for extinguishing fires, for wetting the sails, and for pumping out water to prevent the ship sinking in case of a heavy leak. . . . Since the year 1672 these fire-engines have produced very complete results on all occasions, results surpassing by far those obtained by former methods, which, after careful deliberation, have been entirely rejected and abandoned, as well as all the ladders, vessels and canvas cloths [? for use as reservoirs] as well as the greater part of the leathern buckets serving to draw water, fifty of the newly invented fire-engines being substituted. . . . Thus we are shown the genesis of modern fire-fighting arrangements from the ingenious brain of an architectural painter, who has, besides, made a very charming scene of the various fire-fighting operations depicted in his prospectus. These pleasant and leisurely proceedings seem far removed from the activities of fire-brigades, professional and auxiliary, in the modern A.R.P. organisation, when every minute is of importance and chemical processes must be brought into skilled use against incendiary missiles.



## THE TERRITORIALS' AIR RAID RESPONSIBILITY: GROUND DEFENCE.



AN ANTI-AIRCRAFT "FIRE CONTROL" UNIT IN ACTION: SHOWING (FROM L. TO R.) THE PREDICTOR, WHICH PROVIDES DATA ELECTRICALLY RECORDED ON THE GUN-DIALS; THE HEIGHT-FINDER; AND A 3'7 A.A. GUN.



THE 3'7 A.A. GUN AND ITS DETACHMENT OF SEVEN MEN, OF WHOM NO. 1 IS IN CHARGE, NOS. 2 AND 3 LAY FOR LINE AND ELEVATION, NO. 5 OPERATES THE BREECH, AND NOS. 6 AND 7 RELOAD.

IN ACTION ON A TARGET: THE HEIGHT-FINDING TEAM AT THEIR STATIONS, WITH NO. 3 ADJUSTING THE INSTRUMENT FOR HEIGHT, NO. 2 LAYING FOR LINE, AND NO. 1 READY TO SHOUT THE HEIGHT TO THE PREDICTOR.



AN INSTRUMENT WHICH PRODUCES THE ELEVATION, THE LINE AND FUSE-SETTING TO A TARGET AND TRANSMITS THE DATA TO THE GUN-DIALS BY MEANS OF AN ELECTRIC CABLE: THE PREDICTOR AND ITS TEAM.



IN ACTION AT NIGHT: A 3'7 A.A. GUN LAID ON A TARGET CAUGHT IN A SEARCHLIGHT BEAM WHICH THE NOS. 2 AND 3 FOLLOW BY MEANS OF THE GUN-DIALS.

Considerable interest has been shown recently in the 3.7 A.A. gun, which has been described as "one of the most efficient in the world." Eventually, the majority of Territorial Anti-aircraft batteries will be equipped with this gun and, in answering a question as to the rate of supply, Mr. Hore-Belisha said last month: "I think that the production of the gun is quite remarkable." Our photographs show a sub-section in action with this gun using a predictor and a height-finder. The predictor produces the "rate" of the target in terms of "angular velocity" and compares this rate with the time necessary to send a shell to a point in

the path of the target. From this is deduced (1) the necessary deflections to point the gun ahead of the target, and (2) the necessary fuse. In our picture, Nos. 3 and 5 are laying on the target through telescopes and producing a "layer's rate" of the "angular velocity" of the target. This is shown on dials in front of Nos. 1 and 2. The latter then balance these dials, after No. 4 has put in the height of the target (obtained from the height-finder), and produce an "instrument rate," and from this the gun data are found and then transmitted by electric cable to the gun-dials. The gun can be laid independently should this system fail.



# THE A.R.P. ORGANISATION IN ACTION: HOW OFFICIALS AND WORKERS WOULD PERFORM THEIR DUTIES IN AN ENGLISH TOWN.

Drawn by our Special Artist G. L. DAVIS; with Official Assistance.



HOW THE A.R.P. ORGANISATION FUNCTIONS IN A TOWN IN GREAT BRITAIN: A BIRD-EYE VIEW SHOWING THE MEETING AND CLERICAL STAFFS, FIRE-FIGHTING,

OF EMERGENCIES THAT MIGHT ARISE DURING AN AIR RAID, AND THE DUTIES OF WARDENS, AMBULANCE, NURSING, DECONTAMINATION, AND RESCUE WORK.

The Home Secretary's appeal for a million volunteers for air-raid precaution duties has met with a notable response. Mr. Geoffrey Lloyd, Supervisor of A.R.P. activities throughout the country, said that as early as March 1,500,000 copies of the A.R.P. handbook had been sold. The Government has been steadily creating the framework of trained instructors, A.R.P. schools, and classes for training volunteers. The trained instructors provided by the Home Office A.R.P. schools at Falfeld and Easingwold now run into thousands. On the auxiliary fire-brigade side the Home Office has drawn up an approved course, and instruction is being given by members of regular

brigades. The apex and central point of the whole system is the new central A.R.P. school, which might be described as an A.R.P. staff college. There the head organizers and, in general, the higher directing executives from all over the country now have an opportunity of coming into personal touch with the experts of the Home Office. We illustrate on these pages the operation of the A.R.P. organisation in an English town, and the part played by the various A.R.P. workers. The posts of Air Raid Wardens are being filled by responsible and active men and women of mature years. The wardens act as leaders and helpers in a small sector, consisting of, perhaps,

a hundred houses, forming a link between the people living in them and the authorities. They are also responsible for the fitting and distribution of gas-masks. Further duties are assistance in putting out fires; fencing off unexploded bombs; first aid, when necessary; messenger work; and seeing that all house lights are darkened. Above all, it is imperative that they keep calm themselves, and check any signs of panic in their areas. With regard to the A.R.P. fire-fighting precautions, special models of fire-engine have been brought out to meet the danger of incendiary bombs (the effect of which is described and illustrated on page 124); namely, a heavy type of engine with

a pump driven by a separate motor; a medium type suitable for towing behind a car; and a light type which can be pushed by hand. In both the latter types, the pump is, of course, driven by a motor. The work of the decontamination squads requires great care, and a special routine has to be followed when workers remove their contaminated clothes and overalls. Having done this, they proceed to the washing room, douche themselves with warm water under the first shower, move to the second shower and soap themselves, and then move to the third shower to wash the soap off. Following this, a completely different set of clothing is put on.



# ACTIVE DEFENCE AGAINST BOMBERS: THE SEARCHLIGHTS AND FIGHTERS.

DRAWN BY OUR SPECIAL ARTIST G. H. DAVIS.



## HOW GROUND ORGANISATION AND INTERCEPTOR FIGHTERS WORK TOGETHER TO STOP THE BOMBER: THE VITAL PART PLAYED BY THE SEARCHLIGHTS IN SHOWING DEFENCE FIGHTERS THE WHEREABOUTS OF RAIDERS AND AIDING THE ATTACK UPON THEM.

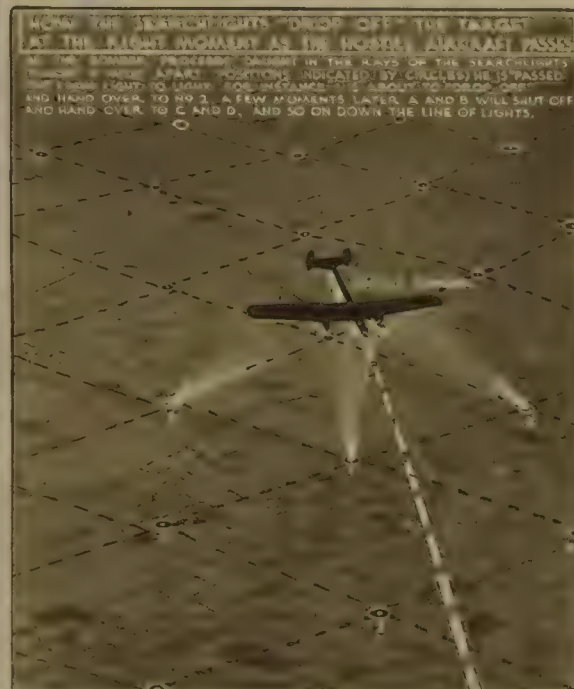
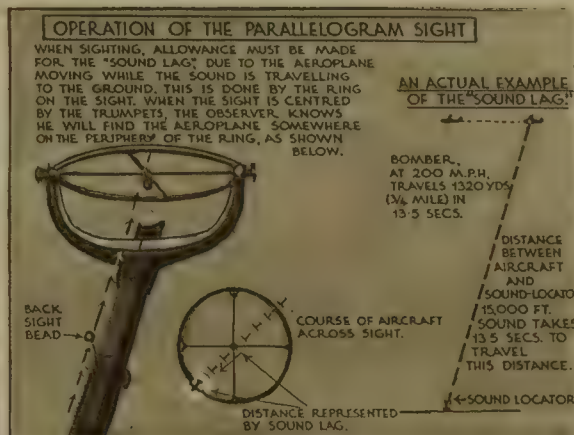
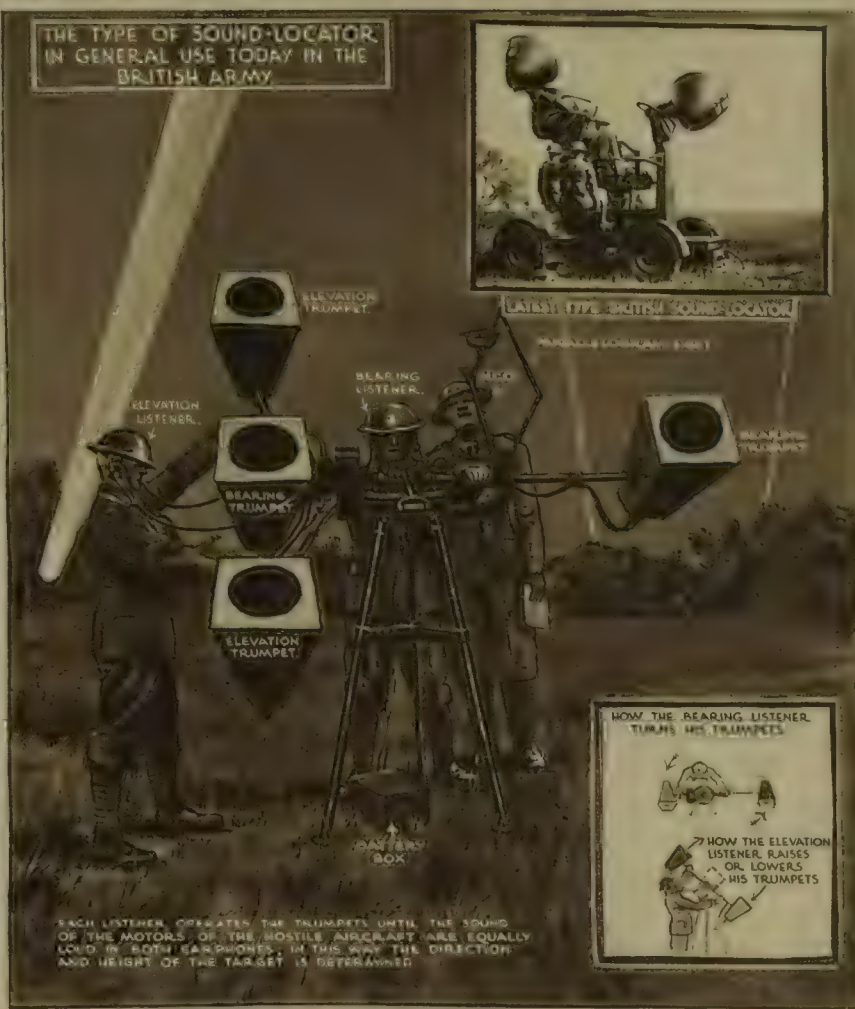
The active air defence of Great Britain, and particularly of our great cities, depends upon a partnership between the R.A.F. and the Territorial Searchlight units. In the air are the fighters, fast single-seater multiple-gun aircraft, whose task is to intercept and drive down or turn back the slower, heavily laden hostile bombers. These fighters are the principal weapons of the defensive system. They would not, however, be able to carry out their task without the co-operation of the Territorial Army troops with their sound-locators, searchlights and guns on the ground. Linking together the whole organisation is the network of telephones of the Royal Corps of Signals (T.A.). The work of defence begins far out at sea, where ships are placed to give the earliest possible warning of the approach

of hostile aircraft. The observer corps on the coast (trained by the Air Ministry and sworn in as Special Constables) send the news of approaching bombers to G.H.Q., and the interceptors take to the air. If it is a night raid, the searchlights in their hundreds stand ready. Directly one beam picks up a hostile bomber, two others at once concentrate on it, almost blinding the crew. This conjunction of lights is a sign to the interceptor fighters, who race to make their attacks out of the darkness upon the bomber held in the lights. Even if clouds intervene, the searchlights shining on the cloud-layer are a valuable guide to the fighters; and it is plain that these are in a measure dependent upon the efficient training of the searchlights, and ground troops working with them.



## DEFENCE AGAINST THE BOMBER: SEARCHLIGHTS AND SOUND-LOCATORS.

DRAWN BY OUR SPECIAL ARTIST G. H. DAVIS.



## THE WORK OF THE SEARCHLIGHTS IN MEETING THE BOMBER: HOW THE SOUND-LOCATORS FIND THE EXACT POSITION OF THE RAIDER, WHO IS THEN KEPT CONTINUOUSLY ILLUMINATED.

The 90-cm. searchlights in general use by the Territorial units which would undertake the defence of London and other cities in time of war is a highly efficient projector. The source of light is provided by an arc-lamp, the flame of which consists of the vapour of carbon heated to an incandescence at the enormous temperature of 5430 degrees F. To allow the positive carbon to burn evenly it is rotated by an electric motor, and to keep the lamp clear of smoke and fumes an electrically-driven fan is used for ventilation. The detachment operating the searchlight consists of ten men under the command of a sergeant. Six of these detachments are under the command of a commissioned officer, probably a 2nd lieutenant. In operating the projector, all have to be highly skilled, and

the N.C.O.s must be trained to know the exact moment when to "expose" and when to "drop off" their target. The sound-locators are used to find the position of the hostile aircraft by means of the sound of their motors. The man at the parallelogram sight on the sound-locator knows that the line of sight from the backsight to the centre of the ring is the direction in which the trumpets are pointing. But allowance must be made for the distance travelled by the aircraft in the interval of time taken by the sound to reach the locator (called "sound lag"). This distance is represented by the ring, so that the observer knows that when sighting from the backsight he will find the aircraft somewhere on the periphery of the ring.



# THE LESSON OF BOMBED BARCELONA.

"AIR RAID": By JOHN LANGDON-DAVIES.\*

An Appreciation by SIR JOHN SQUIRE.

THE whole of England, in its usual mild and casual way, is engaged in what is called "A.R.P."—namely, arranging for precautions against air raids during the next European war, should such a war unhappily break out. People are being instructed as to how to seal up their doors and windows with sticking-plaster when poison-gas bombs are in the offing; how to dump sand on the first conflagrations from incendiary bombs; and how to construct bomb-proof shelters. Now comes Mr. John Langdon-Davies, who has been a war correspondent in Government Spain, has been through many air raids, and has been allowed to consult the official records relating to the intensive bombing of Barcelona in March, and he tells us that all the steps we are taking are antiquated and almost useless.

His theory is that the German and Italian bombers in Spain have been testing a new technique—the technique of Silent Approach, and the causing of panic. For nearly forty-eight hours, Barcelona was bombed by relays of aeroplanes. There were about 10,000 casualties; but, according to Mr. Langdon-Davies, the mere infliction of death and wounds was not the chief aim of the raids: for that matter, he suggests, the more children there are killed the fewer useless mouths there are to feed; from the mere slaughtering point of view, a bomb on the front-line trenches is much more effective than a bomb on an infants' school or a nunnery. No poison-gas was used, nor any incendiary bombs; the whole object, says Mr. Langdon-Davies, of this concentrated torment was to discover what would be the psychological effect of it on a harassed population. The effect was so tremendous (this is his view, which I am not in a position either to support or to contradict) that another forty-eight hours of it might have broken the whole Republican resistance against the Nationalists. "Why didn't they go on then?" asks the reader, naturally. "Because," replies Mr. Langdon-Davies, not entirely convincingly, "they were only trying it on the dog. They had found out what they wanted to know, and they didn't want to give England too much warning."

In the next war, so runs his argument, our enemy's first endeavour will be to demoralise our civil population, and to dislocate the working of the Home Front. Officials, he says, with some reason, always organise defences against the last war, and not against the next. In the last war there were raids on London. The aeroplanes were sighted or heard long before they neared London; maroons went off; the population either took shelter in cellars or doorways, or mounted to the roofs, according to taste; the raid came, some bombs were hurriedly dropped, there was a pepper of shrapnel in the branches of the Green Park trees, off went the raiders with or without loss, and the

people of London, briefly interrupted, picked up the threads of normal life again and carried on for a week or so until there was another short interruption.

"It won't," says Mr. Langdon-Davies, "be like that next time." For one thing, we shan't know when they are coming. The planes which came to Barcelona from Palma rose 30,000 feet in the air, shut off their engines, glided for a hundred miles or so, and dropped their bombs from a height of 10,000 feet, the alarms being given after the bombs had dropped. It wasn't, and it won't be again, a question of a single sporadic raid: the thing was kept up for two days and nights. The actual raids lasted only twenty-six minutes in all, but the population was frightened, sleepless, and useless the whole time,

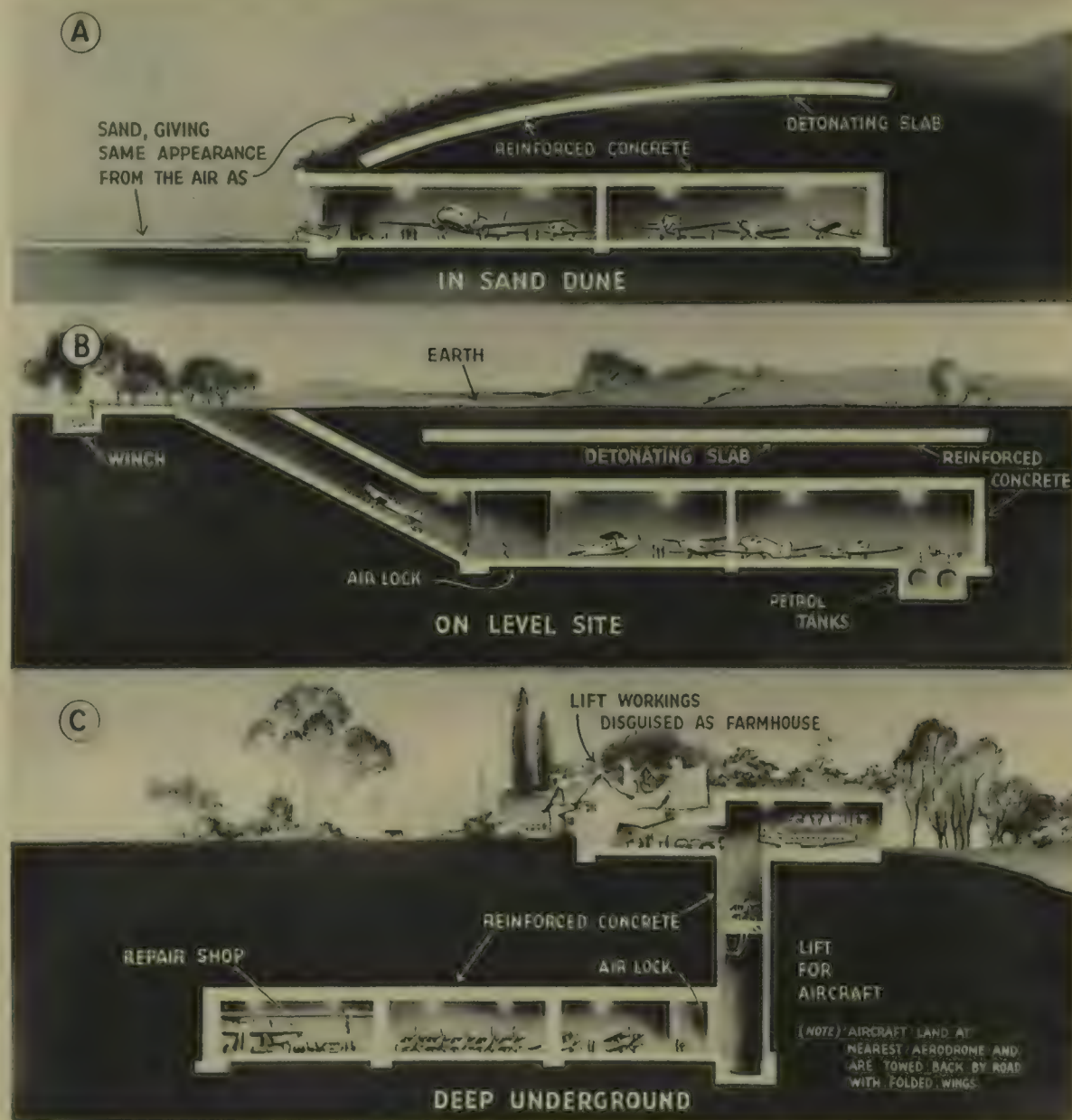
still hope, will be under the control of the British Fleet, and London is not quite on the coast. But should a pertinacious enemy, at whatever risk, decide to bomb London from the air, not for two days, but every day for a month, there is nothing to stop him from doing so, and, failing precautionary measures, the stoutest population in the world might quail.

Mr. Langdon-Davies has no complete solution: who could have one? But he does make some mitigating suggestions. Firstly, he proposes a north-and-south, east-and-west complex of subterranean tunnels linked up with the Underground Railways, which would enable people to get to and from their work without congesting the above-ground traffic, which might be thrown completely out of action by

a single bomb in Piccadilly Circus. Secondly, he would like to see a national organisation created (which could, with benefit to the people's health, be practised with in peacetime) which would be ready, at a moment's notice, to send all the children in London to the country or the seaside. And, thirdly, he says that, when there is a war on and a danger of air raids, it is quite ridiculous for millions of people to come into London in the morning and go out again in the evening. We all ought to be prepared to sleep in our offices for the duration, thereby diminishing underground pressure and the risk of panic that goes with it.

This book, I imagine, will be read in Whitehall, where there are men whose business it is to protect us against any foreseeable contingency. And it should be read by the public. "The time," says Mr. Langdon-Davies, "for action is now. Unfortunately, there is a dangerous attitude towards A.R.P. to be observed on all sides. People seem to have persuaded themselves that 'nothing is any good anyhow,' and that they will therefore do nothing. It must be confessed that the very low level of intelligence shown by many lecturers on A.R.P. and a partially justifiable feeling that there has been too much talk about useless measures of protection, is responsible for this. . . . Our action can combine the amelioration of peace-time living with preparation for war-defence. When public opinion is alive to the possibilities of a real A.R.P. programme, it will demand a lead from the Government that shall be more inspiring than anything that we have yet been given."

It may be that the Government is more aware of the problem than Mr. Langdon-Davies thinks: Whitehall is not a very talkative place. But his book can do nothing but good, and its illustrations drive its arguments home. He says that in Barcelona it is believed that some new explosive has been used; certainly single bombs seem to have done more damage there than ever before. How difficult it is for the older amongst us to realise that we once lived in a world where it was unthinkable that foreign explosives should kill people in London, and our Army was regarded as a force which kept turbulent tribes quiet on the North-West Frontier, and we hadn't to spend half our short lives worrying about war!



A SUBSTITUTE FOR THE PRESENT ABOVE-GROUND HANGARS AT AERODROMES: THREE TYPES OF SUBTERRANEAN HANGARS BUILT WITH REINFORCED CONCRETE.

We reproduce here, from a pamphlet entitled "Air Raid Protection," issued by the Cement and Concrete Association, an imaginative diagrammatic drawing designed to show suggested types of subterranean hangars for sheltering aeroplanes on the ground during air raids. The design "A" is for use where there is rising ground adjoining the aerodrome, or in coastal sand-dunes for seaplanes. "B" is for normal aerodromes, and "C" for frontier defence in difficult country. A note on the subject states: "It is generally admitted that our greatest insurance against the air-raid menace lies in the strength of our Air Force. An aeroplane on the ground is an extremely vulnerable object and the provision of at least one underground hangar at all important civil and military aerodromes would seem to be no more than an elementary precaution against the grave air-raid risks to aircraft under construction or repair, or which for some other reason are unable to seek refuge in their natural element."

because they never knew when and where the next bombs would be dropped. War cannot be waged unless people behind the lines can eat, sleep and work: it would be very little use were the whole of the inhabitants of London to be "safe" in the bowels of the earth if they had neither food nor sleep nor dared to come to the surface to work. "March 16th—17th—18th in Barcelona," says Mr. Langdon-Davies, "made most A.R.P. literature obsolete. The well-produced A.R.P. manuals still on sale in Barcelona streets are contradicted by the ruins amid which they are sold. The charts of the amount of concrete which will stop a high-explosive bomb have disappeared for the best of reasons. It is impossible to find anyone taking an interest in gas-masks, far less in gas-proof rooms. The whole conception of what must be done against bombardment has changed."

Well, what can we do? We are not quite so vulnerable as Barcelona. The Narrow Seas, we may

\* "Air Raid. The Technique of Silent Approach. High Explosive Panic." By John Langdon-Davies. With Illustrations, Maps and Plans. (Routledge; 2s. 6d.)



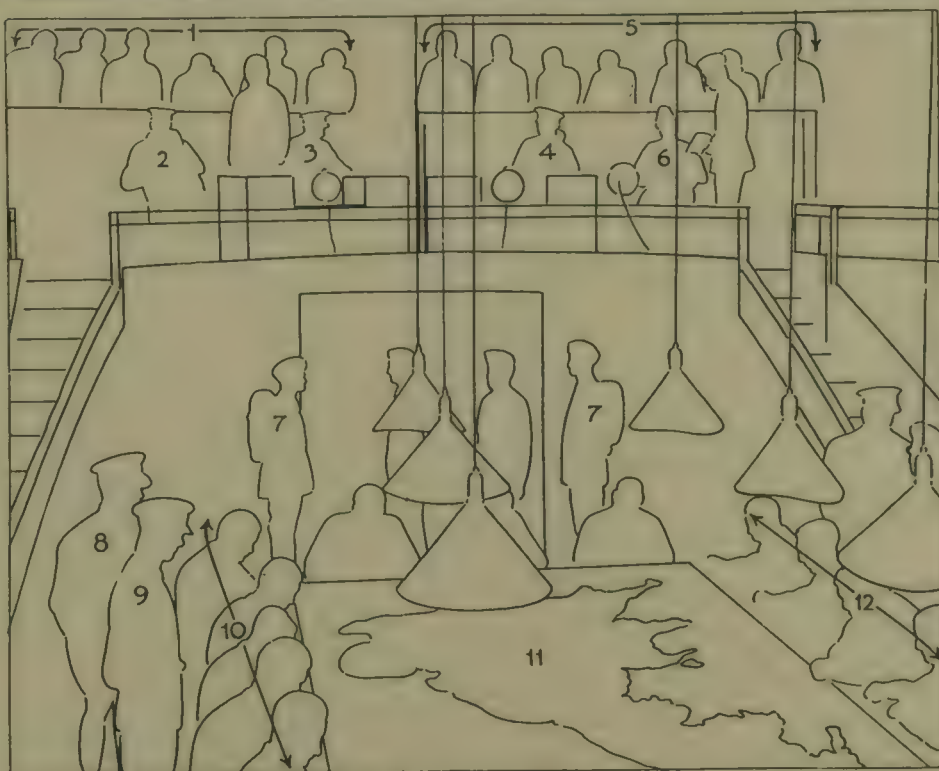
# THE "BRAIN" OF OUR AIR RAID DEFENCES: A TYPICAL CONTROL ROOM.



CO-ORDINATING THE VARIOUS MEASURES EMPLOYED TO LOCATE AND ENGAGE ENEMY RAIDERS BEFORE THEY REACH THEIR OBJECTIVE: THE AIR DEFENCE CONTROL ROOM, AS REPRESENTED IN AN OFFICIAL FILM, WHERE REPORTS FROM THE CIVILIAN OBSERVER CORPS ARE PASSED ON TO THE GROUND DEFENCES AND R.A.F. FIGHTER SQUADRONS CONCERNED.

BRITAIN'S air defence depends for its success on the co-ordination of the various measures employed to locate and engage the air-raider before he reaches his objective. In "The Gap," an official film dealing with Britain's air-defence measures, made by Gaumont-British Instructional Films, in collaboration with the Army and Air Force Councils, the "brain-centre" is shown to be the Air Defence Control Room. Actually the scene portrayed in the film does not agree with anything which exists in our defensive organisation, and its only purpose is to present in a dramatic and more convenient form the several different operations of our existing defensive system. For instance, all the men shown in the above photograph as operating in one room would not, in fact, do so under our present arrangements. The film shows how, in the event of war, orders are issued from a Defence Centre Control Room, warning the defenders to get ready. Then reports arrive from the Civilian Observer Corps, giving the number and direction of approaching enemy aircraft, and this information is passed on to the ground defences, comprising anti-aircraft batteries and searchlight units, who come into action while squadrons of R.A.F. fighters take off to intercept the raiders. At first the enemy are driven back, but eventually one of their bombers finds a gap in the defences caused by a shortage of men in the Territorial units manning

*[Continued opposite.]*



A KEY TO THE STAFF OF AN AIR DEFENCE CONTROL ROOM (SHOWN ABOVE).

1. R.A.F. signallers in direct communication with aerodromes. 2. Operations Staff Officer to Major-General.
3. Major-General Commanding A.A. Division, T.A. 4. Air Vice-Marshal, Fighter Command. 5. R.A.F. signallers in direct communication with aerodromes. 6. Wing-Commander, R.A.F. (Staff Officer to Air Vice-Marshal).
7. Sentries with fixed bayonets. 8. Lance-corporal, A.A. Divisional Signals, T.A. 9. Sergeant, A.A. Divisional Signals, T.A. 10. Telephonists of the Royal Corps of Signals, T.A., in direct communication with guns and searchlights. 11. A Map of England with numbered squares showing positions of guns and searchlights and (in black) the movement of enemy bombers. 12. Telephonists of the Royal Corps of Signals, T.A., in direct communication with guns and searchlights.

*[Continued.]* the ground defence equipment. Scenes of confusion and destruction result, and night bombing attacks and aerial fighting over the Metropolis are depicted. The importance of the Territorial Anti-aircraft divisions being at full strength and their increasing responsibilities in the country's defence system was emphasised by the Secretary of State for War in the House of Commons on June 28. He stated that when, in 1935, the entire responsibility for anti-aircraft defence at home was vested in the Territorial Army, the actual strength of air defence formations was under 2000 all ranks. In 1936 the first anti-aircraft division was formed, and a second in 1937. The total strength of the two divisions is now 43,000, and it is proposed to more than double this figure. The existing Territorial Anti-aircraft units, with the addition of others about to be created, will be formed into five divisions, instead of two, under a Corps Commander with the rank of Lieutenant-General. The Corps Commander will be responsible to the Air Officer Commanding Fighter Command for operations. At the War Office, an officer with the rank of Lieutenant-General, to be designated Deputy Chief of the Imperial General Staff (Anti-Aircraft Defence), is to be appointed, and under him a new Director of Anti-Aircraft Training and Organisation, with the rank of Major-General, in view of the importance of anti-aircraft defence.

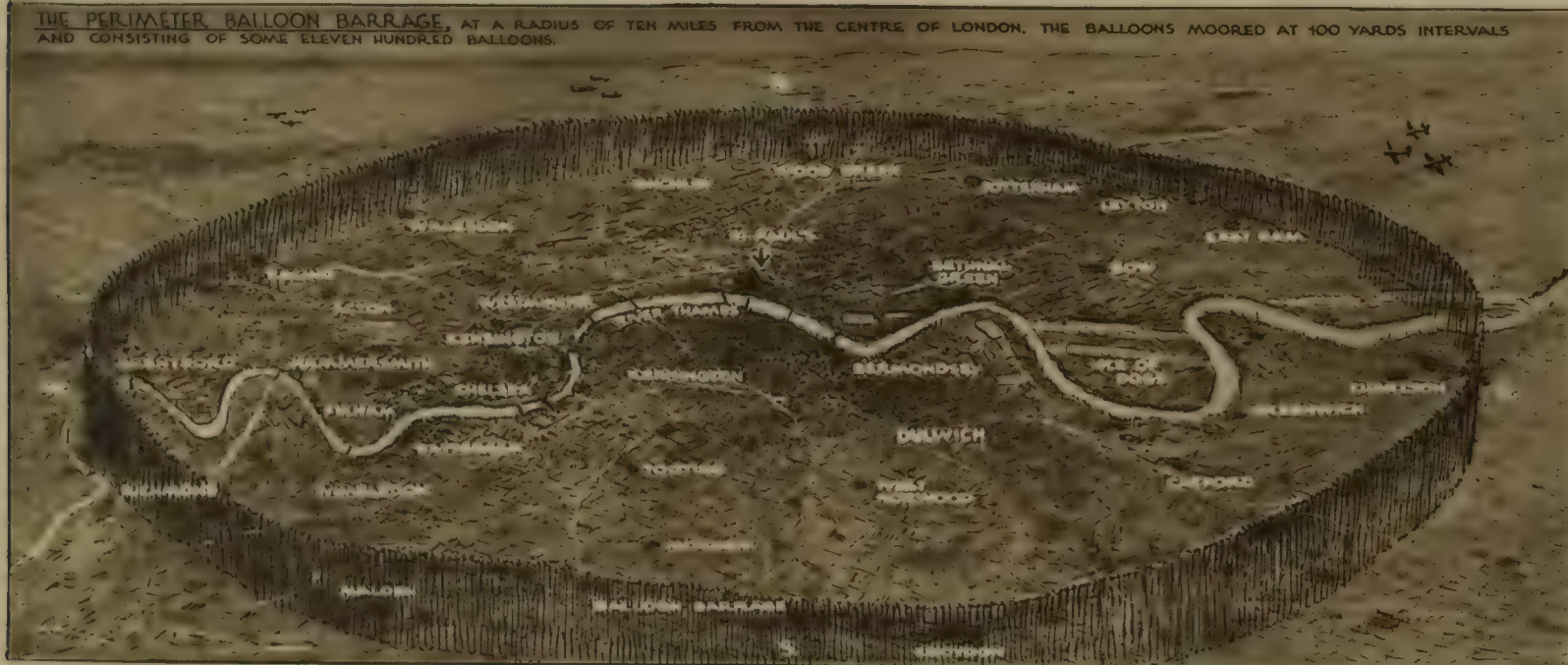


## "MINEFIELDS" OF THE AIR TO DETER RAIDERS: THE BALLOON BARRAGE.

DRAWN BY OUR SPECIAL ARTIST G. H. DAVIS.



THE PERIMETER BALLOON BARRAGE, AT A RADIUS OF TEN MILES FROM THE CENTRE OF LONDON, THE BALLOONS MOORED AT 100 YARDS INTERVALS AND CONSISTING OF SOME ELEVEN HUNDRED BALLOONS.



THE "FIELD SITED" BALLOON BARRAGE WHICH GIVES AN EQUAL CHANCE OF IMPACT THOUGH A LESS NUMBER OF BALLOONS ARE USED THAN IN THE PERIMETER SYSTEM, THE BALLOONS BEING SPACED WIDER APART. IN THIS CASE APPROXIMATELY 600 BALLOONS ARE EMPLOYED.



AN IMPORTANT BRANCH OF THE AUXILIARY AIR FORCE FOR THE DEFENCE OF LONDON: THE BALLOON BARRAGE  
AS IT WOULD APPEAR TO AN 'AIR-RAIDER' (TOP DRAWING) AND TWO METHODS OF PLACING IT (BELOW).

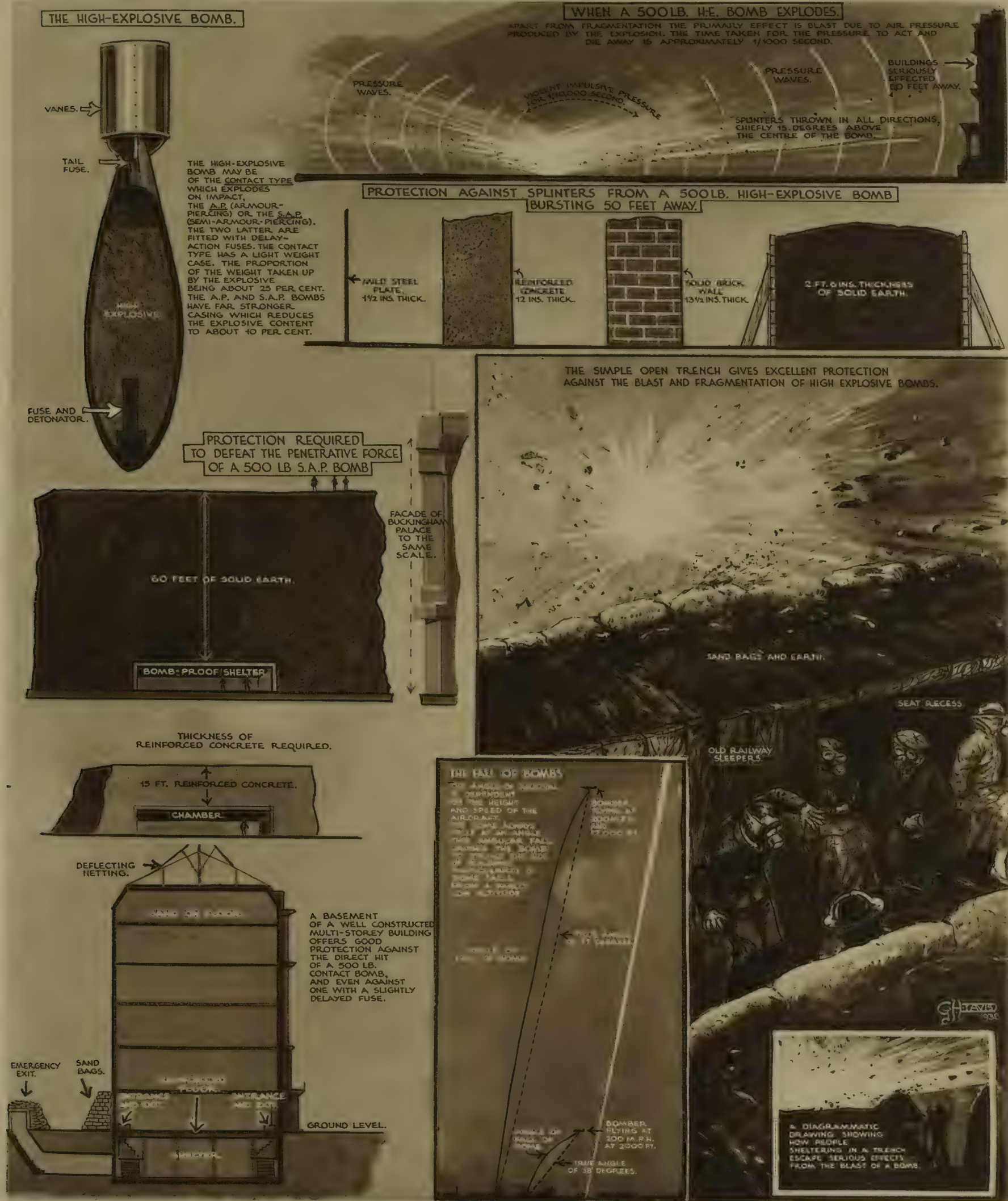
On other pages in this issue we show how cities can protect themselves from aerial attack by civilian precautions, by anti-aircraft guns worked in conjunction with searchlights and by Fighter Squadrons of the R.A.F. Here we illustrate another method—the Balloon Barrage. London is to have ten squadrons, each of fifty balloons handled by a lorry-winch and a crew of

ten. Six have already been formed and recruiting has started for the remaining four. The purpose of the barrage is to destroy low-flying raiders or force them up to a height where they can be met by the interceptor squadrons. The balloons are placed round a city in a ring or distributed in depth over it. This subject was fully dealt with in our issue of Jan. 22.



# THE HIGH-EXPLOSIVE BOMB MENACE: ITS ACTION; AND COUNTER-MEASURES.

DRAWN BY OUR SPECIAL ARTIST G. H. DAVIS.



## MEETING WHAT IS PROBABLY THE WORST MENACE OFFERED BY AIR RAIDS TO THE CIVILIAN POPULATION: THE ACTION OF THE HIGH-EXPLOSIVE BOMB; AND METHODS BY WHICH THIS CAN BE SATISFACTORILY COUNTERED.

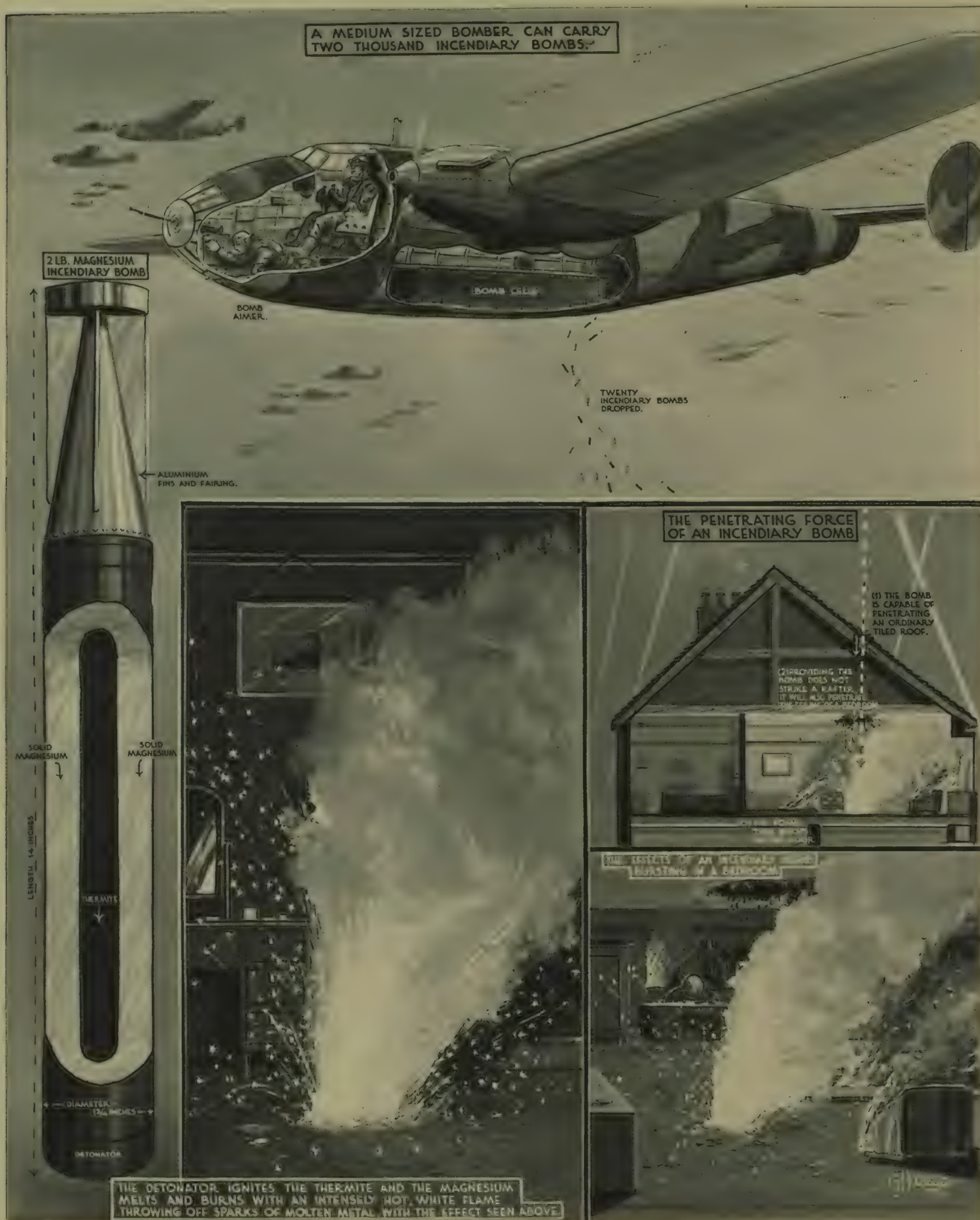
The Barcelona air raids have done much to open people's eyes to the menace of the high-explosive bomb to civilian populations. On this page our special artist illustrates some of the effects of such bombs, and some measures that may be adopted to counter them. High-explosive bombs may go off on impact, or be exploded by a fuse giving a more or less long delay after penetration. The destructive effect of a bomb exploding on impact comes principally from the blast of the explosion, but also, of course, from bomb splinters. Blast is due to air pressure produced by the explosion. So terrific is the blast from a big bomb that if the pressure were sustained, as in the case of wind-pressure, there are few walls in existence which

could stand up to it. Fortunately, the pressure is only momentary (the time taken for it to act and die away is about 1/1000th of a second), and this makes all the difference. Moreover, its effect is greatest in an upward direction, since it is reflected from the ground. As regards protection from blast, shelters and basements of buildings are favoured, and afford excellent protection if properly constructed. Trench systems are to be recommended for the use of people caught in the streets, or in flats or densely populated areas. When considering structural protection it should be remembered that a bomb always falls at an angle to the ground—the size of the angle being dependent on the height and speed of the aeroplane dropping the bomb.



# THE INCENDIARY BOMB: A SERIOUS AERIAL THREAT TO CITY POPULATIONS.

DRAWN BY OUR SPECIAL ARTIST G. H. DAVIS.



THE LIGHT INCENDIARY BOMB WHICH MAY BE DROPPED IN SWARMS WITH THE OBJECT OF STARTING NUMEROUS FIRES AND PRODUCING EXTENSIVE DAMAGE AND PANIC: A 2-LB. MAGNESIUM AND THERMITE MISSILE; AND ITS EFFECTS.

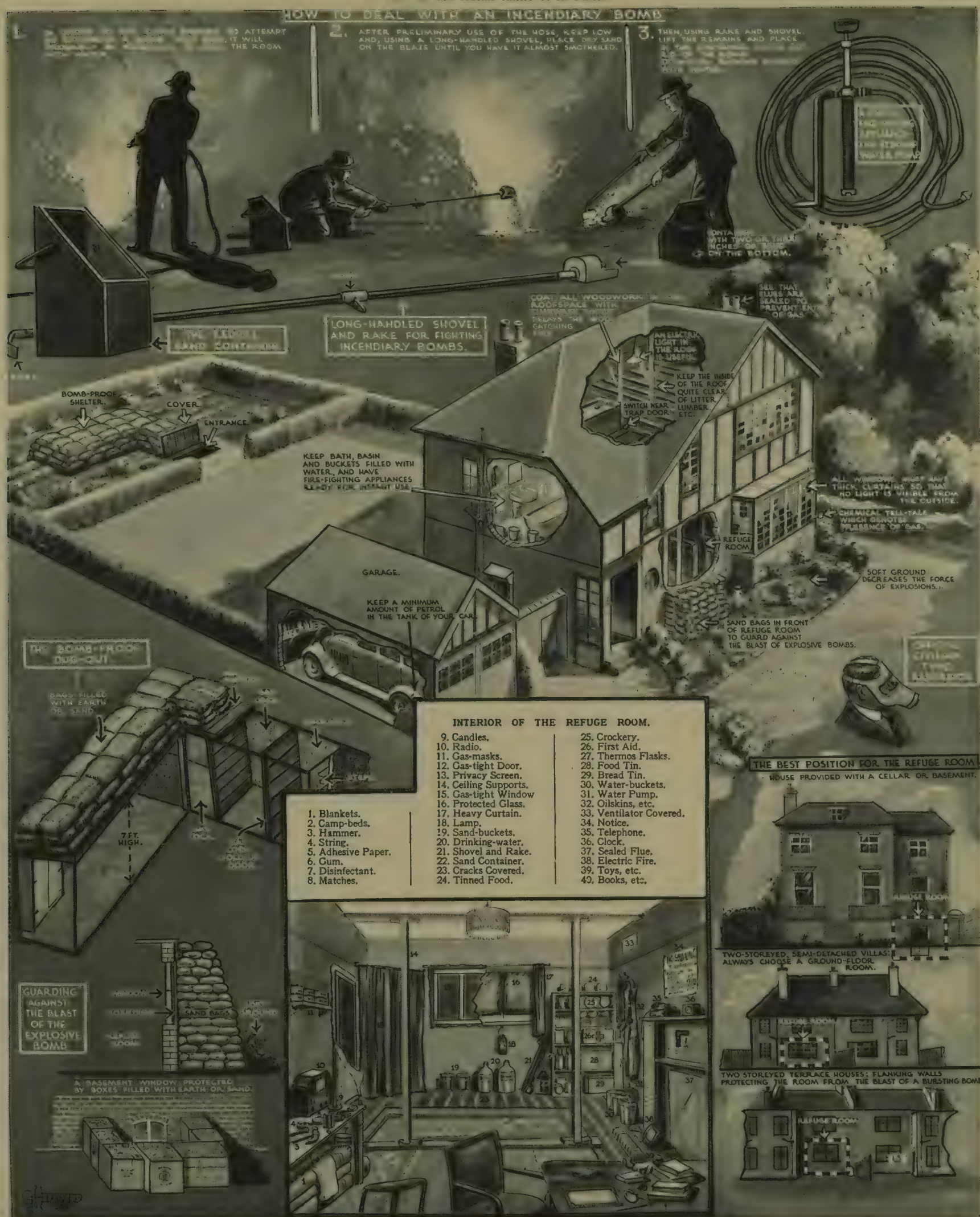
Most people have heard about incendiary bombs, but few are familiar with their appearance and their destructive potentialities. The bombs used by the great air Powers to-day vary in size and in the materials of which they are composed. Here is illustrated the 2-lb. magnesium bomb of a modern and generally used type. No fewer than 2000 of these bombs can be carried by a medium-sized aircraft. Falling from a great height, one of these bombs can go through the roof of a dwelling-house and burst on the floor of an upper room. The whole bomb with the exception of the tail is made of magnesium, which is ignited by the detonator and thermite filling and burns with an intensely hot white flame,

throwing off showers of sparks of molten metal. The radiated heat is so great that it sets fire to almost anything inflammable 5 to 8 feet away; whilst the sparks are capable of setting fire to fabrics, etc., at a wider radius. So fierce is the burning power of these bombs that it is practically impossible to subdue them by water alone, and the only remedy is to smother the molten magnesium by means of sand or foamed slag. About 35 lb. of sand or 15 lb. of foamed slag should be sufficient to cover and control a small bomb. If the bomb is left unextinguished, it is capable of burning through floor-boards, and a small incendiary bomb might start a huge conflagration.



## THE HOUSEHOLDER'S PART IN A.R.P.: MEETING BOMB AND GAS DANGERS.

DRAWN BY OUR SPECIAL ARTIST G. H. DAVIS.



## WHAT THE HOUSEHOLDER CAN DO TO MEET THE DANGERS THREATENED BY AIR RAIDS: PRECAUTIONS AGAINST HIGH EXPLOSIVE AND GAS; AND THE METHOD OF DEALING WITH INCENDIARY BOMBS.

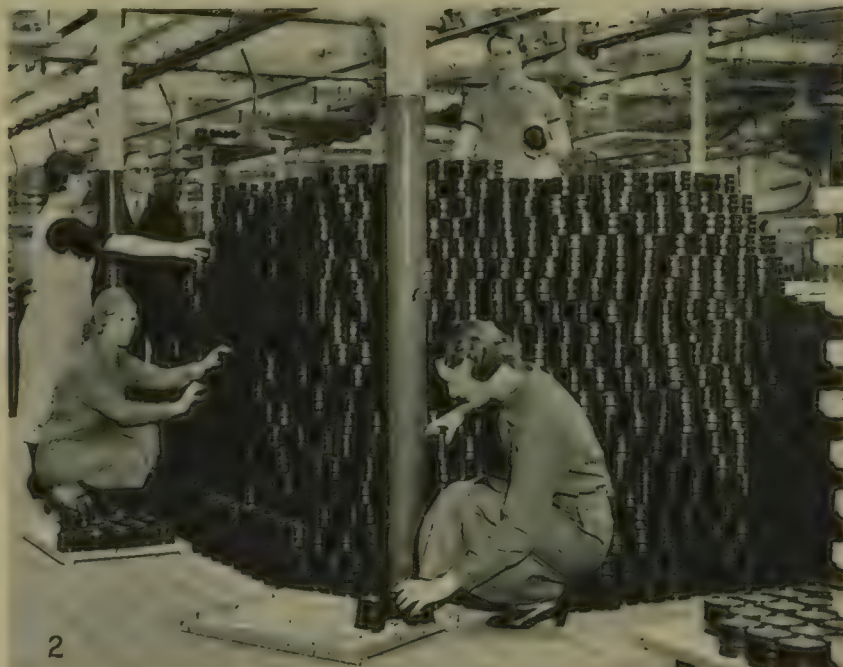
In the words of the Home Office Official Handbook, "Every householder . . . should learn now how to protect, in war-time, his own people and home from the effects of explosive bombs, incendiary bombs and poison gas." On this page is seen a typical suburban dwelling-house and the simple measures that can be prepared in readiness for the threat of air raids. The refuge room, with its sealed windows, floors and flue, its door hung with a wet protecting blanket, and fully equipped, will give security against poisonous gas. Sand, water, and simple equipment (which may be purchased at all the big stores) give the householder a chance to fight and subdue an incendiary bomb, and sand-bags and a gas-proof dug-out (if there is sufficient space to construct it) are capable of protecting

not only against fire and gas, but against the blast and steel splinters of the high-explosive bomb. It will be noticed that all sorts of small objects should be got ready for a refuge room—tinned food, gas-tight containers for bread, etc., gas-masks arranged with the name of the owner on each container, a liberal supply of drinking-water, books, playing-cards, folding beds, blankets, etc., first-aid equipment and extra supports for the ceiling, lamps, candles, and dark curtains to shade the windows. At the top of the page is shown how a small incendiary bomb may be dealt with. The fire-fighter wears a hat as a protection against sparks. Smoked glasses may also be advisable, in view of the intense glare of the blazing magnesium.



## DEFENCE AGAINST AERIAL GAS-ATTACKS: GAS-MASKS FOR CIVILIAN USE.

PHOTOGRAPHS BY L.N.A., WIDE WORLD, AND G.P.A.



1. ASSEMBLING GENERAL SERVICE PATTERN RESPIRATORS IN A LONDON FACTORY.
2. STACKING CONTAINERS (OR FILTERS) MANUFACTURED FOR THE GENERAL CIVILIAN RESPIRATOR.
3. PACKING THE COMPONENT PARTS OF THE GENERAL CIVILIAN RESPIRATOR IN TINS FOR STORAGE PURPOSES.

4. A GIRL SOLDERING TINS IN WHICH THE PARTS OF THE GAS-MASKS ARE PRESERVED.
5. SUBMERGING THE SEALED TINS IN HOT WATER—WHEN BUBBLES REVEAL ANY LEAKAGE OF THE NITROGEN.
6. EXHAUSTING THE AIR FROM THE TINS AND FILLING THEM WITH NITROGEN.
7. LABELLING THE TINS BEFORE DESPATCHING THEM TO LOCAL GAS-MASK DEPÔTS.

Measures for the protection of the civil population against gas attacks from the air are already well advanced and, in an emergency, an efficient gas-mask will be given to everyone. At the moment there are stocks of 35,000,000 respirators in the Home Office regional stores in London, Reading, Bristol, Cambridge, Coventry, Nottingham, Manchester, Liverpool, Leeds, Gateshead, and Galashiels, and arrangements are being made for their distribution to local depôts with accommodation

for 30,000 gas-masks each. The civilian respirator comprises a face-piece of sheet rubber, a non-inflammable cellulose acetate window, head-harness, and a filter. The component parts are packed in tin containers which are filled with nitrogen to preserve the rubber. Each tin is tested before being stored. The respirators are proof against any known gas used in war, but afford no protection against carbon monoxide, carbon dioxide, ammonia, or atmosphere deficient in oxygen.



# HIT!...

## by a 1 ton high explosive bomb . .

*but this reinforced concrete building defied destruction*



*From an actual photograph of the  
ADMINISTRATIVE BUILDINGS  
at the  
NORTH STATION, SHANGHAI*

Actually none of the bombs which scored direct hits penetrated more than three floors, proving that the ground floor and basement of a reinforced concrete building offer a high degree of safety to the inhabitants.

Many blocks of flats, large office buildings and factories in this country are built of reinforced concrete. Their designers—as well as their occupants—are to be congratulated. But what of the future? Menace from the air will ap-

parently be always possible. Is it wise to erect new buildings of less strong and less safe materials?

Concrete itself is immensely strong. Combined with steel it is the strongest form of construction known. Even earthquakes do not destroy reinforced concrete—hence the almost exclusive use of this material for important buildings in South America.

Overleaf will be found illustrations of concrete air-raid shelters for many pur-

poses. Some of them are relatively inexpensive—designed for the small householder. The Cement and Concrete Association will gladly advise on the construction of air-raid shelters. Leaflets dealing with various types are available and will be sent free on receipt of an application indicating what class of shelter is concerned.

**CEMENT AND CONCRETE ASSOCIATION,  
52 GROSVENOR GARDENS,  
LONDON, S.W.1.**



# PASSIVE RESISTANCE TO THE BOMBER: REFUGES FOR INDUSTRIAL WORKS.

REPRODUCTIONS BY COURTESY OF THE CEMENT AND CONCRETE ASSOCIATION.



A SHELTER ABOVE GROUND, AT A POINT AT WHICH TREES PREVENT OBSERVATION FROM THE AIR: THE NISSEN HUT—SO WELL KNOWN IN THE GREAT WAR—ADAPTED FOR USE AS A REFUGE BY MEANS OF CONCRETE AND EARTH.



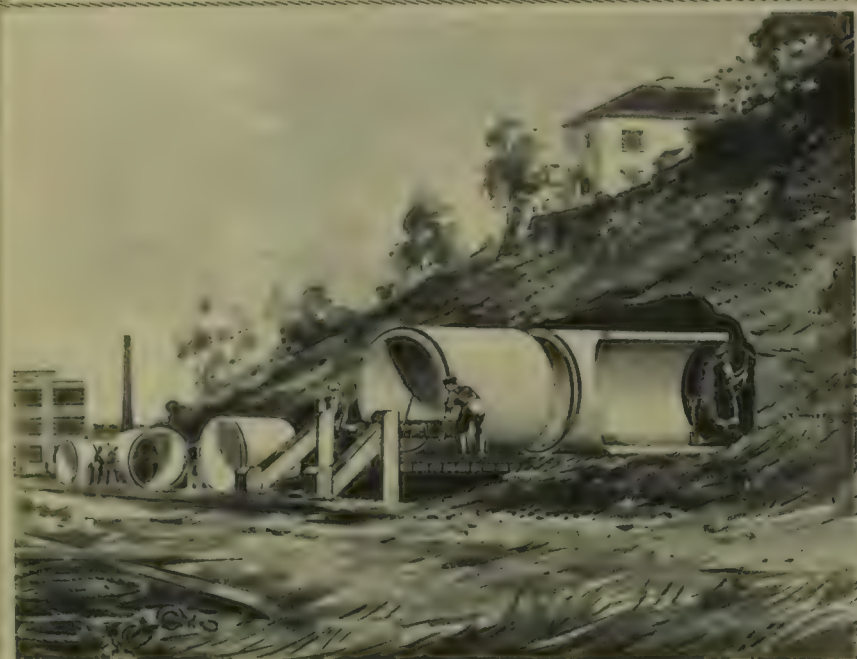
SUITABLE FOR LARGE INDUSTRIAL WORKS: A SPLINTER-PROOF SHELTER SPECIALLY DESIGNED TO SERVE A DUAL PURPOSE—AS A STORAGE SHED FOR WORKMEN'S BICYCLES AND AS A REFUGE IN AN EMERGENCY.



WITH OPENINGS FOR LIGHT AND AIR (BELOW THE FLAT TOP) WHICH CAN BE CLOSED IN WARTIME: A REINFORCED CONCRETE SHELTER WHICH, WHEN COMPLETED, WILL BE, FOR THE MOST PART, BELOW GROUND-LEVEL.



A REFUGE WHICH CAN COMFORTABLY HOUSE FIFTY PERSONS DURING AN AIR RAID: THE INTERIOR OF A CONCRETE TUBE SHELTER (DIAMETER: 90 IN.) AT A LARGE INDUSTRIAL WORKS IN THE MIDLANDS.



FORMING A SHELTER IN A HILLSIDE PROOF AGAINST BLAST, SPLINTERS, AND EVEN, TO SOME EXTENT, DIRECT HITS: LARGE PRE-CAST CONCRETE TUBES INSERTED INTO A SPECIALLY CONSTRUCTED GALLERY BY "JACKING."



PROVIDING ACCOMMODATION FOR TWO HUNDRED PEOPLE: A LARGE SHELTER IN THE BASEMENT OF A LONDON BLOCK OF FLATS ADEQUATELY PROTECTED FROM BLAST AND VENTILATED BY A CARRIER ENGINEERING GAS-FILTRATION PLANT.

The bomber's mission is to destroy military objectives, but the temptation to try and break the morale of the civilian population may be overwhelming, as has been shown in China and Spain. Panics will never arise, however, where adequate shelters are available to give protection from the blast and splinters of bombs. A direct hit can rarely be guarded against, although the system of tunnelling into hillsides, or slag-heaps, and inserting pre-cast concrete tubes in the gallery so formed will give

this protection if at sufficient depth. On this page we show various types of refuges suitable for industrial works; ranging from the semi-circular corrugated iron type of hut, made by Nissen Buildings, which is covered with 8 or 10 in. of concrete and a mound of earth, to the basement type of concrete shelter, as found in a London block of flats, which has accommodation for two hundred people and is provided with ventilation by a gas-filtration plant installed by the Carrier Engineering Co., Ltd.



PASSIVE RESISTANCE TO THE BOMBER: DOMESTIC AND PUBLIC SHELTERS.

REPRODUCTIONS BY COURTESY OF THE CEMENT AND CONCRETE ASSOCIATION.



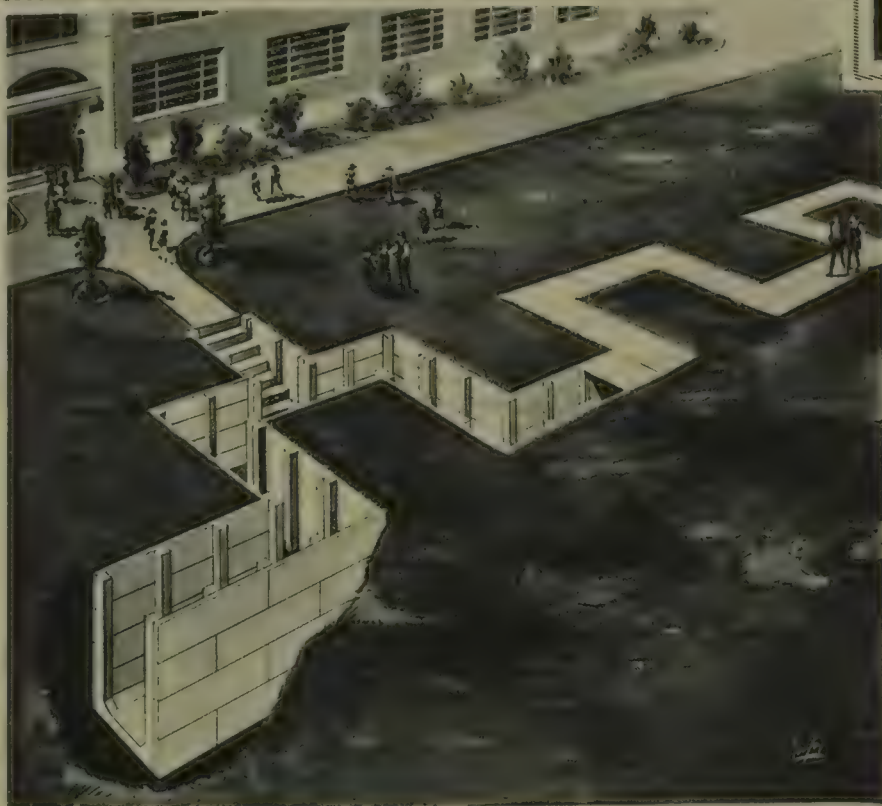
A SIMPLE METHOD OF PROVIDING A SHELTER WHICH WILL GIVE ADEQUATE PROTECTION: A CONCRETE "LEAN-TO" FOR A SUBURBAN HOUSE. (Fox.)



ONE OF THE MOST CONVENIENT AND ECONOMICAL WAYS OF CONSTRUCTING A PUBLIC SPLINTER-PROOF SHELTER: MULTIPLE CONCRETE TUBE REFUGES.



A FORM OF PROTECTION THAT MIGHT BE EMBODIED IN THE CONSTRUCTION OF A NEW HOUSE: A SIMPLE BASEMENT DESIGN IN CONCRETE. (Fox.)



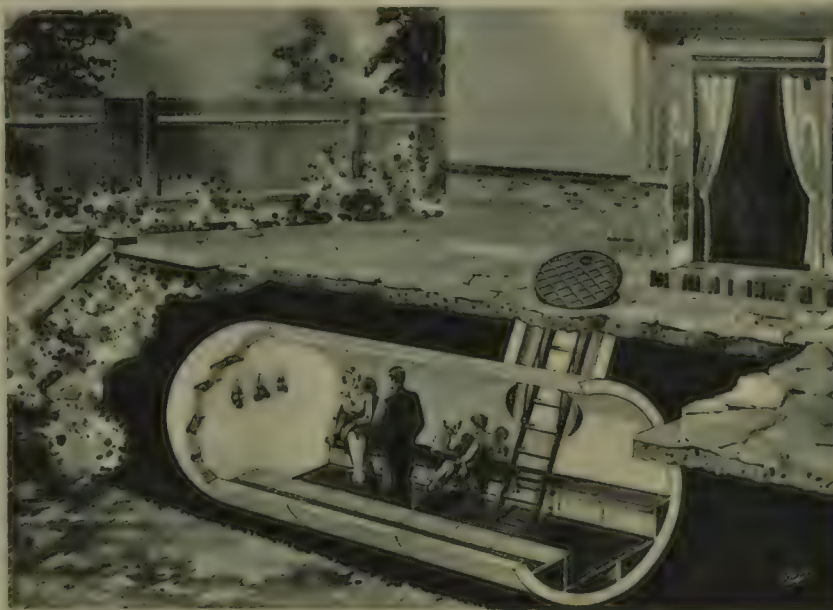
AN IDEAL SYSTEM OF PROTECTION WHERE OPEN GROUND IS AVAILABLE FOR USE: A PERMANENT TRENCH REVETTED WITH CONCRETE AND COVERED OVER. (Fox.)



ANOTHER TYPE OF DOMESTIC SHELTER ON THE GROUND FLOOR: A CONCRETE ROOM WHICH HAS BEEN PLANNED FOR A DUAL PURPOSE. (Fox.)



ADAPTED FOR GARDENS: A FAMILY CONCRETE TUBE SHELTER OF SIMPLE CONSTRUCTION WHICH, NORMALLY, CAN BE CONCEALED BY A ROCKERY.



OUT OF SIGHT BELOW GROUND: A FAMILY SHELTER FORMED OF LARGE CONCRETE TUBES TO WHICH A MAN-HOLE GIVES ACCESS. (Fox.)

On another page in this issue we show types of air raid shelters suitable for factories. On this page are types of refuges which can be constructed in residential areas for the protection of each household, and shelters on a larger scale which could be constructed in the grounds of schools and in public squares to give security to members of the public who are in the streets when an air raid warning is given. If the householder has a small garden, the best and most economical form of refuge

can be made from large pre-cast concrete tubes joined together. The structure can be partially buried and "disguised" by having a rockery above it or laid well below ground with a man-hole to give access to it. Where a new house is being built, a basement made of reinforced concrete will give protection from splinters and remain intact should the building collapse above it. Such additions to a house can be made quite attractive and serve a dual purpose as spare rooms.



# EVACUATION!

*the most effective A.R.P*

**Overhead roads such as this can simplify and expedite exit from London.**

*London's streets are crowded enough in peace time. In a time of emergency it is appalling to contemplate the chaos! With every vehicle available pouring on to our narrow thoroughfares in search of escape, all traffic would be paralysed; choked roads would be death traps — targets the indiscriminate bomb would rarely miss.*

Orderly evacuation is the most effective of all forms of air-raid protection; the measures to secure it are London's greatest and most pressing need.

Sir Charles Bressey in his report has outlined a practical scheme, which by the provision of overhead roads and tunnels could to a large extent simplify and expedite evacuation.

Designed primarily for peaceful purposes, they would become invaluable in times of war. The need for them is as urgent as any form of defence. The sooner they are put in hand, the safer will London's millions feel—and be.

Overhead roads need not be eyesores; note the graceful span of that concrete arch and the slim pillars that support, and afford access to, the broad double-track highway.

The cost of such roads will necessarily be high, but compares favourably with that of tearing down valuable buildings to widen and straighten existing roads. And overhead roads have the additional merit that under them



the traditional appearance of London can be maintained unimpaired.

CEMENT AND CONCRETE ASSOCIATION, 52, GROSVENOR GARDENS, S.W.1.



## THE ACTIVE DEFENCE OF GREAT BRITAIN AGAINST THE BOMBER:

### THE MOST COHERENT ANTI-AIRCRAFT ORGANISATION POSSESSED BY ANY POWER.

An Article written exclusively for "The Illustrated London News" by a high authority.

THE peril of an air attack on Great Britain was the product of the invention of the aeroplane. In the course of the Great War a defence against this peril was built up, a defence which, in May 1918, mastered the enemy attack so far as raids on London were concerned. When the war came to an end, that great organisation, numbering hundreds of guns and searchlights, was dissipated, and in the post-war years this country, resting confident that war would not again threaten, lay almost defenceless against air attack.

Yet there was a nucleus of ground air defence, for in 1922 a small formation of four Territorial A.A. Artillery Brigades and two Searchlight Battalions was recruited at Chelsea, Putney and at Westminster. These units afforded

1935 this expansion has proceeded apace, until, as was recently pointed out by the Secretary of State for War, the numbers of ground troops of the Territorial Army have risen from a bare 3000 in 1935 to a figure approaching

50,000 to-day. Nor is that the end of the story, for the further extension now envisaged will bring the total number of Territorial officers and men in A.A. units to a figure approaching 100,000. It is worth pausing one moment to reflect that therein is included the greatest single item of national rearmament since 1935. In no other branch of the three Services has there been such a rapid increase in man-power.

It is to be remembered that this air defence is a partnership. The responsibility for the protection of our country against attack from the air rests upon the Air Ministry, but in its working it is a partnership between the R.A.F. and the Territorial

Army. To this partnership the R.A.F. contributes the Fighter Squadrons, both Royal Air Force and Auxiliary Air Force, Balloon Barrage Squadrons of the Auxiliary Air Force, and the Observer Corps. The Territorial Army contributes Anti-Aircraft Brigades of Artillery, Regiments of Searchlights, and the units of the Royal Corps of Signals, the Royal Army Service Corps, the Royal Army Medical Corps, and the Royal Army Ordnance Corps, without whose services the guns and searchlights could not operate. The air defence of

Great Britain is probably the most coherent defence against attack from the air that has ever been put into operation by any Power. It will consist of a great defensive belt from the south-west of our country to the far north. Across that defensive belt no enemy aeroplane will ever be able to fly without its presence being detected and its position known. To-day the most important weapon of the defence is our own fighter aeroplane. These heavily armed, fast-climbing destroyers of the sky, the "Hurricane" and "Spitfire" planes, whose pictures are already beginning to be shown in Press photographs, have as their task the destruction and defeat of enemy raiding squadrons.

But if they are to succeed in this task they must know where the bombers are to be found in the sky, and at night their target must be illuminated for them. One of the greatest difficulties of the whole problem of aerial combat is for one plane to see another plane in the great spaces of the firmament. Wireless telephony and the searchlight beam helped to find a solution of this difficulty. Indeed, without the aid of the searchlight and the sound-locator which form part of every searchlight detachment, the task of the fighting-squadrons would be difficult. Those whose memories go back to war-time days will carry mental

pictures of searchlight beams criss-crossing the sky, looking for the raider. This is a picture which is not likely to be seen again. To-day the task of looking for the raider is, to use an Irishism, done by listening, and the searchlight beam is exposed as soon as the position of the target has been determined by the sound-locator. As the first beam picks up the silhouette of the enemy bomber, the two nearest beams also expose and swing in to the target. Then through the darkness strikes a triangle of light, at the apex of which triangle is the target, either for our guns or for the diving attack of our own fighting-aircraft.

Nor is the partnership

of fighter and searchlight the only weapon in our armoury. Anti-aircraft gunnery has made such rapid strides within the last few years that those whose estimate of its worth is based upon recollections of "Archie" of the Great War, must needs revise their whole conception of the problem. It is perhaps worth remembering that where two hundred shells were required in 1918, one is required to-day. The new fire-control instruments have substituted automatic mathematical precision for what was twenty

years ago, to a great extent, rule-of-thumb procedure and optimistic guess-work.

While the larger guns, the 3 in., the 3.7 in., and larger guns yet to come, have for their main task the destruction of enemy squadrons flying at medium and high altitudes, other guns are produced to deal with the low-flying attack. If hostile planes come in only a few thousand feet from the ground, rapid traversing of the large guns may present difficulties. But such low-flying attacks are well within the range of smaller and more handy artillery, and so, to defeat the low-flying plane, there have been introduced the 2-pdr. A.A. gun, as well as the A.A. machine-gun. Nor is that all our national armament, for in the Balloon Squadrons, manned by the Auxiliary Air Force,



TO PROTECT BRITAIN AGAINST HOSTILE BOMBERS: THE SUPERMARINE "SPITFIRE" SINGLE-SEATER FIGHTER MONOPLANE, BELIEVED TO BE THE FASTEST MILITARY AEROPLANE IN THE WORLD; WHICH IS UNDERGOING ACCEPTANCE TRIALS.

The design of the Supermarine "Spitfire" owes much to the experience gained by the Supermarine Company in the construction of high-speed aeroplanes for the Schneider Trophy contests. It is powered by a Rolls-Royce "Merlin" engine.

an opportunity for a number of brilliant and devoted men to continue the study of gun and searchlight defence against raiders from the air. It is perhaps impossible to over-estimate the debt of gratitude the nation owes to the commanding officers, indeed, to all the officers and men,



THE GLOSTER "GAUNTLET": A BIPLANE SINGLE-SEAT HIGH-ALTITUDE FIGHTER WITH A SPEED OF 230 M.P.H.; AND MOUNTING TWO MACHINE-GUNS. (BRISTOL "MERCURY VLS." ENGINE.)

of these London Territorial units for the manner in which, during times of financial stringency and lack of public interest, they carried out training and research which were to be invaluable when expansion became necessary.



THE HAWKER "DEMON": A TWO-SEATER FIGHTER WITH A SPEED OF 203 M.P.H., IN WHICH THE GUNNER IN THE REAR COCKPIT IS PROTECTED BY AN EXTENSIBLE SHIELD. (ROLLS-ROYCE "KESTREL V." ENGINE.)

Photographs by Charles E. Brown.

A few additional A.A. units were formed in the twelve years 1922-1934, but it was not until 1935 that the Government's decision to increase the defence of our country against air attack began to take notable effect. Included in that general plan was one decision of first-rate importance. A few years previously the coast defence of Great Britain had been handed over to the Territorial Army. In 1935 it was laid down that the whole of the expansion of air defence should be on a Territorial Army basis. Since



THE FASTEST FIGHTER IN SERVICE IN ANY AIR FORCE, WHICH PLAYS A PART IN THE ACTIVE DEFENCE OF BRITAIN AGAINST AIR RAIDS: THE HAWKER "HURRICANE," A TYPE OF MACHINE WHICH WAS FLOWN FROM EDINBURGH TO NORTHOLT AT AN AVERAGE SPEED OF 408 M.P.H. EARLIER IN THIS YEAR.

The Hawker "Hurricane" is a single-seat monoplane fighter, powered with a Rolls-Royce "Merlin" engine. It mounts no fewer than eight machine-guns in its wings, making it very formidable as a destroyer of bombers.

the Territorial Army of the Air Arm, we have a defensive measure which may have possibilities of future development which are to-day only in contemplation.



THE HAWKER "FURY": A SINGLE-SEATER INTERCEPTOR FIGHTER BIPLANE WITH A SPEED OF 240 M.P.H., AND CAPABLE OF CLIMBING TO 20,000 FT. IN TEN MINUTES (ROLLS-ROYCE "KESTREL VI." ENGINE.)

The picture thus presented is perhaps a change, and a heartening change, from the description, not infrequent a few years ago, of a panic-stricken civilian population cowering in the shelter of dug-outs or improvised protection,



THE GLOSTER "GLADIATOR": A SINGLE-SEAT FIGHTER MOUNTING FOUR MACHINE-GUNS AND CAPABLE OF 255 M.P.H., BEING THE FASTEST BIPLANE IN THE R.A.F. (BRISTOL "MERCURY IX." ENGINE.)

helpless against attack from the air. The picture to-day is of a civilian population preparing through the medium of the Territorial Army and the Auxiliary Air Force to defend itself. From the moment the raiding squadron approaches this country, the entire resources of a wealthy, intelligent and determined democracy will be concentrated upon its destruction. May it not be long before the defensive measures are so complete that no air force in the whole world will wish to hazard an attack on so well-defended a citadel.



## THE PASSIVE DEFENCE OF GREAT BRITAIN AGAINST THE BOMBER:

THE WORKING OF THE A.R.P. ORGANISATION;  
PLANNED TO MEET EVERY DANGER ARISING  
FROM AIR ATTACK.

By MAJOR VIVIAN B. ROGERS, D.S.O., M.C. (Chairman  
of the A.R.P. Committee, City of Westminster).

OWING to the high speed and long range of modern aircraft, passive defence will take a great part in any future war, but it should not be thought that, because so much is now being published on Air Raid Precautions, there is any suggestion that war is imminent. The contrary is the case; but the risk of attack from the air, however remote, cannot be ignored, and preparations to minimise the consequences of such an attack can only be effective if they are made in time of peace.

A.R.P. can be compared to boat-drill at sea. The captain of a liner, after leaving port, orders boat-drill at a stated time and expects all the passengers to attend, wearing their lifebelts. This is not done because the captain expects shipwreck, but so that every passenger may know where to go and what to do in the unhappy event of an accident occurring. The object of A.R.P. is to bring home to every civilian what might be expected as the result of an air raid, and to give instruction as to where to go, what to do, and how to take the best possible steps to preserve life and reduce damage to property.

The three dangers against which precautions should be taken are: (1) high-explosive bombs; (2) incendiary bombs; and (3) gas. It is generally considered that (1) and (2) present the most formidable problems. As each method of attack might be used separately or all three simultaneously, it will be seen that the Air Raid Precautions organisation, to be effective, must be well balanced and capable of easy adaptation to any emergency.

The whole organisation of passive defence is under the Home Office and the responsibility for carrying out schemes of A.R.P. rests on the local authorities

throughout the country; but there is a difference between London and the provinces. In large provincial towns the police, fire, medical, and other services come under the central control of the city or county borough council concerned, whereas in London the fire and ambulance services come under the London County Council, the police under the Commissioners of the Metropolitan and City of London Police, while the Common Council of the

City and the Metropolitan boroughs are responsible for the remaining work.

The nature of the organisation varies according to the local circumstances, but the following may be regarded as typical. In most cases the council has appointed an Air Raid Precautions committee, with equivalent status to the other committees of the council. On this committee it is usual to find the chairman of those committees whose officers have A.R.P. duties—e.g., Works Committee, Public Health Committee, etc. This system maintains liaison between the various committees of the council. In large towns the administrative staff consists of a special department, comprising senior members of all the departments concerned. Thus there is a medical officer, several engineers and draughtsmen, sanitary inspectors, and so on. Although these officers work together to ensure complete and facile co-ordination, they are directly responsible to the chief officer of their respective departments.

The first duty of the A.R.P. staff is the recruitment and training of volunteers for the various services. The most numerous volunteers are air raid wardens, whose duty it is to maintain touch between the council and the citizens. For this purpose they are organised in districts, groups and sectors. For example, a city or borough might be divided into five districts, each district into ten groups, and each group into five sectors. The sector is the smallest unit, containing about 500 inhabitants and manned by half-a-dozen wardens resident in the neighbourhood. These wardens are responsible for imparting information to the inhabitants, fitting them with respirators, and issuing the respirators, should it ever be necessary. In time of war they would keep in close touch, through their local posts, with A.R.P. headquarters.

A large number of volunteers are also required for first-aid work. This may involve staffing a first-aid post, or forming first-aid parties, which, travelling with light transport, would render urgent first-aid on the scene of any damage, direct slight casualties to the first-aid posts, [Continued overleaf.]



MEETING THE INCENDIARY BOMB MENACE, AN IMPORTANT ASPECT OF A.R.P. ORGANISATION: A CITY OF WESTMINSTER EMPLOYEE EXTINGUISHING A BOMB, USING THE "REDHILL" SAND-CONTAINER, DURING A PRACTICE. (Planet.)

## Mappin Quality

IT IS seldom you find a collection

of Rings as excellent in Quality and Design as those illustrated. Incidentally the settings are of Platinum and the illustrations portray their actual size.

There is an efficient Mail Order Service at each of our London establishments and a full range of catalogues is available.

# MAPPIN & WEBB

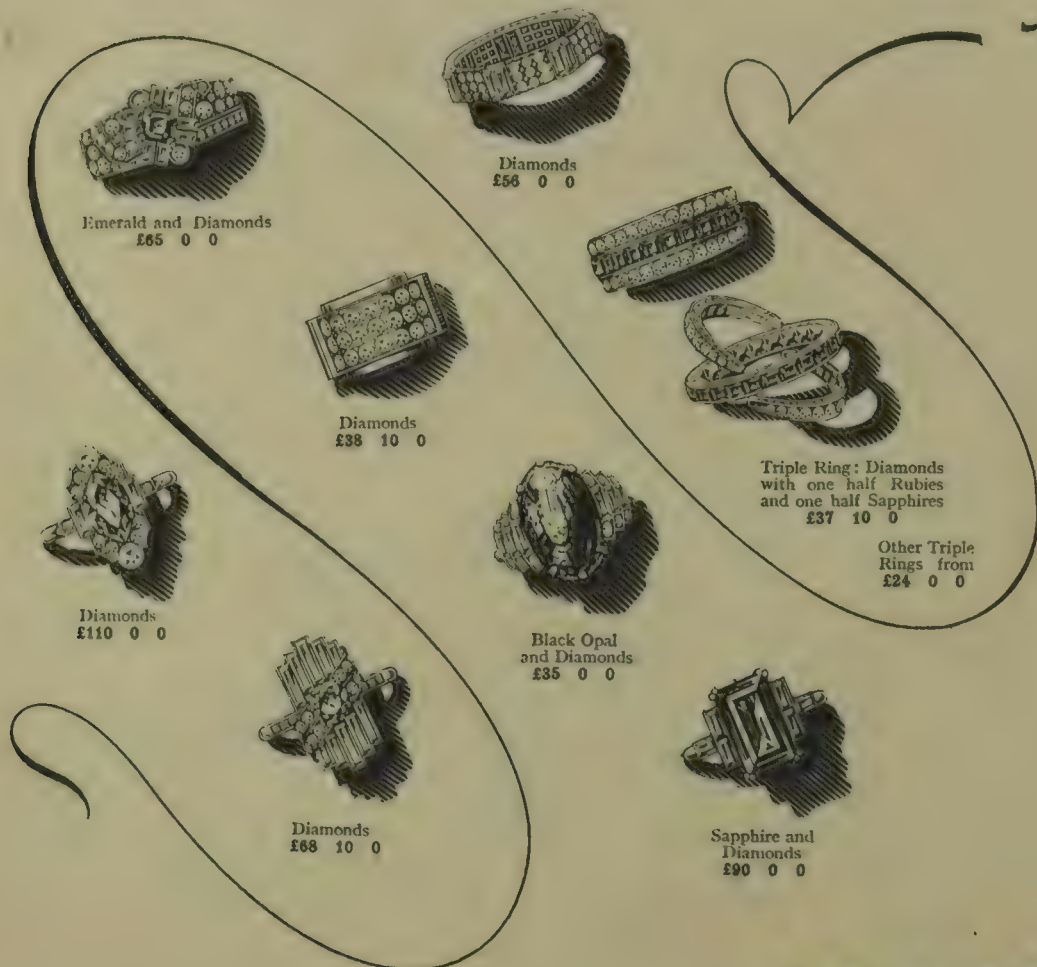
Ltd.

172 REGENT STREET, W.I., 2 QUEEN VICTORIA STREET, E.C.4., 156-162 OXFORD STREET, W.I., LONDON.

Paris Johannesburg

& THE ROYAL SHOWROOMS, NORFOLK ST. SHEFFIELD

Buenos Aires Etc.





# This England . . .



*The mist on Exmoor*

IN 862, Swithun, tutor of kings and bishop of Winchester, being in years, commanded that his bones be laid under the vault of heaven rather than beneath a roof. Yet later, when his name was sanctified, this was felt to be unseemly and a transfer was decreed. But upon the day set apart it rained with such violence and so continued that the project was abandoned in fear. Down through history has the legend held of St. Swithin and the forty days of rain. And if you, who also love the vault of heaven, are caught by the rain that so often follows the summer solstice, remember another English saw—no harm comes of a sodden coat if you have great ale to stay you. And the great ale, like the legend, is with us still. They call it Worthington.





*(Continued.)*

and summon ambulances to convey the badly injured to hospital. A chain of first-aid posts is to be established in each large town and the premises selected will be fitted with the necessary equipment so that they can be made ready on very short notice when required.

Rescue parties would be necessary to enable persons trapped in damaged buildings to escape, and decontamination squads to clear up any poison gas which might be used. The resources of the fire brigade require to be augmented by an auxiliary force to combat the effects of incendiary bombs. All these volunteers are given a complete training in their duties, free of charge, at the local training centre or at the fire brigade headquarters respectively. All are supplied with the Home Office handbooks and any necessary equipment, and members of the auxiliary fire brigade are given a distinctive uniform.

The local authority is responsible for providing shelter for people caught in the streets in the event of an air raid, and this presents a very difficult problem in crowded cities, but the public can materially assist the authorities if they will realise that the streets must be cleared. Those who work near their homes should

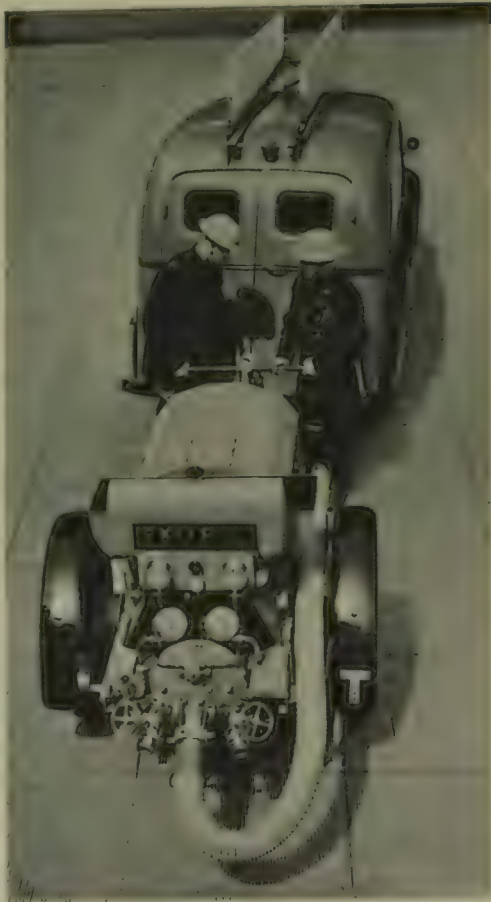
return home at once and stay there until the danger has passed, but others not so fortunately placed should seek the nearest available cover. Persons in a building, whether their own home or not, when a raid commences should remain there and not rush out into the streets. Surveys are being made of existing accommodation in shops and public buildings, to see what space would be available and suitable for persons caught in the street when an air raid warning is sounded.

The Government is providing a respirator for every civilian free of charge, and these are stored in depots each containing about 30,000. There are three different sizes and a special device for infants. Plans have been worked out for the speedy assembly

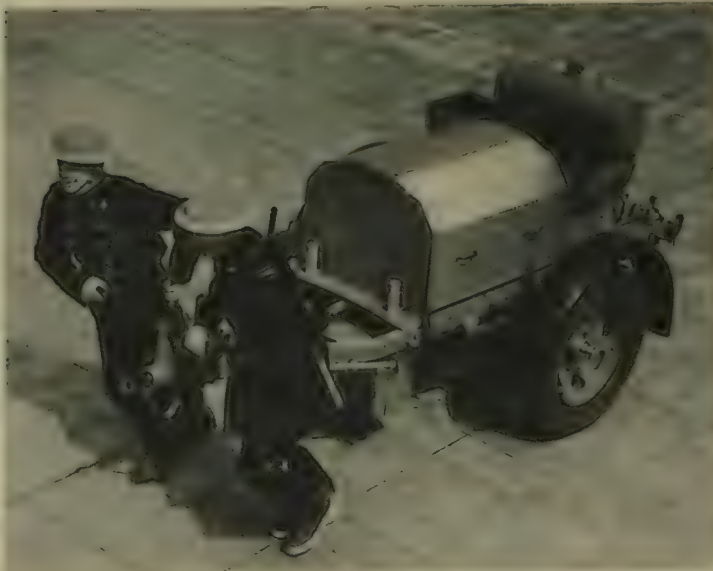
need arise. Volunteers participating in A.R.P. services will be provided with special respirators which would enable them to work more comfortably. The education of the general public is another important duty. For this purpose posters are used, and from time to time typical refuge rooms and exhibitions are open to the public.

It is the usual practice to hold public meetings and, in addition, those volunteers who qualify for the A.R.P. badge attend to receive them at a ceremonial presentation. The air raid wardens are also authorised to give advice to individual householders. Lack of space prevents a description of some of the other duties of the local authorities—e.g., arrangements for warning the public, emergency communications, and so on. Enough has been said, however, to show that there has been placed upon local authorities a new duty to set up an enormous organisation embracing, in a populous town, several thousand persons.

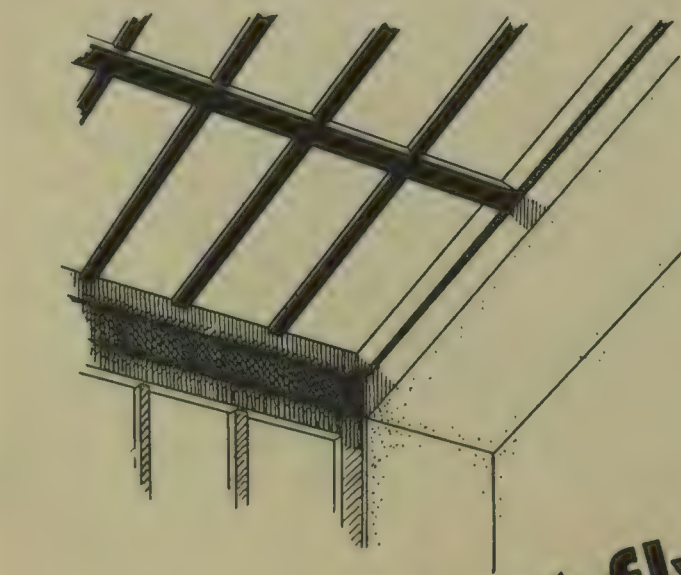
It is essential for the local authorities to keep in close touch with other public authorities in their district, such as the police, the British Red Cross Society and St. John Ambulance Brigade, the gas, electricity and water supply companies, and others. Schemes have also to be co-ordinated with those of adjoining towns, so that no hitch should arise through incidents which might occur on the boundary between two towns. Care is taken that all the A.R.P. services are kept in practice; this being done by means of exercises and "black-outs," which are accompanied by aerial observation to ascertain their effectiveness.



THE MECHANISED SIDE OF A.R.P. FIRE-FIGHTING SERVICES: AUXILIARY FIREMEN WITH THEIR HIGHLY MOBILE TRAILER-PUMP. (Associated Press.)



THE AUXILIARY FIRE SERVICE IN ACTION: THE FIREMEN MOVING THEIR TRAILER-PUMP TO THE WATER-MAIN. (Associated Press.)



# guard against flying glass with **BEXOID**

One high-explosive bomb or shell may shatter every glass window over a radius of half a mile or more.

Anyone can make any ordinary window safe against concussion and air-blast by sticking thin sheet Bexoid to the glass with BX adhesive. Bexoid is highly transparent, and can be cut as easily as paper to fit any window-pane.

Bexoid and BX adhesive are made by the Pioneers of the Plastics Industry, who also make Super-Armourbex (Bexoid reinforced with open wire mesh) for explosion-proof windows in factories, offices, air-raid shelters and public service vehicles.

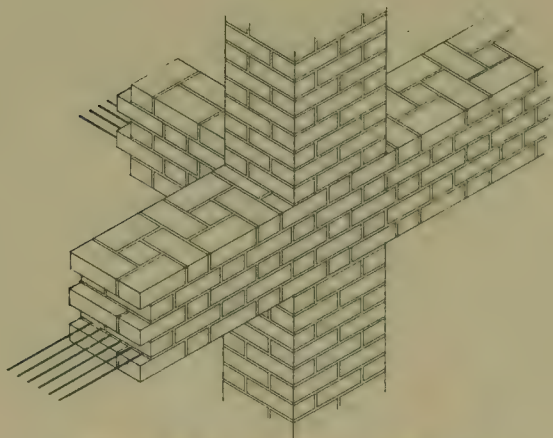
Write or telephone for full information to:—

**A.R.P. ADVISORY SERVICE**

**THE BRITISH XYLONITE COMPANY, LTD., Hale End, London, E.4 & Brantham, Suffolk**

Larkwood 2345 Makers and Manipulators of Plastics





## REINFORCED BRICKWORK

will probably be found to be the real solution of the problems presented by risks from High Explosives and Incendiary devices.

Reinforced Brickwork used as a complete system of framing gives the strength it is designed to give and what is equally important in this work, it provides that fire resistance which only Burnt Clay Products can provide.

### CLAY PRODUCTS TECHNICAL BUREAU OF GREAT BRITAIN

19 Hobart Place, Eaton Square, London, S.W.1 Sloane 7556 & 7805

# AIR-RAID PROTECTION

*that is unobtrusive, inexpensive,  
but very efficient!*



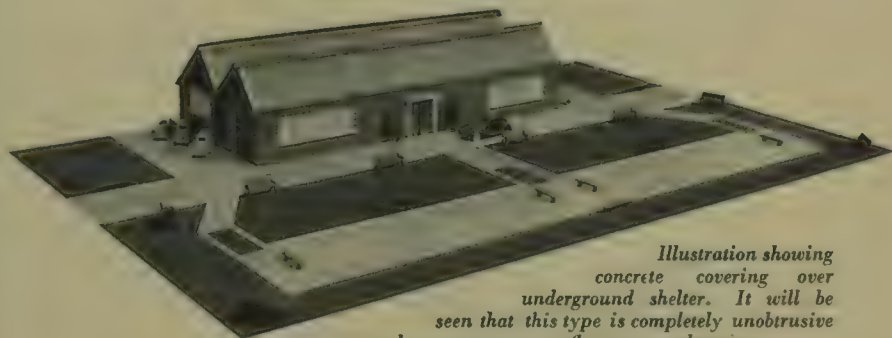
*Illustration shows the Under-ground type Shelter with concrete covering and roof of one unit removed to show construction.*

The "Nissen" Air-Raid Shelter has undoubtedly taken its place as the acknowledged, practical form of protection against aerial attack. It was designed to conform to the recommendations of the Home Office authorities and various types are being installed by Corporations and prominent Institutions throughout the country.

Shelters for private houses can be supplied which will give protection at an economical price. Each unit holds 10, 25, or 50 persons as required, and can be installed above or below ground in such a manner that it will harmonise perfectly with its surroundings.

The fullest information will gladly be provided on request.

The **NISSEN**  
AIR RAID SHELTER



*Illustration showing concrete covering over underground shelter. It will be seen that this type is completely unobtrusive and trespasses on no floor-space whatever.*

NISSEN BUILDINGS LTD., RYE HOUSE, HODDESDON, HERTS

Telephone: Hoddesdon 3001-2



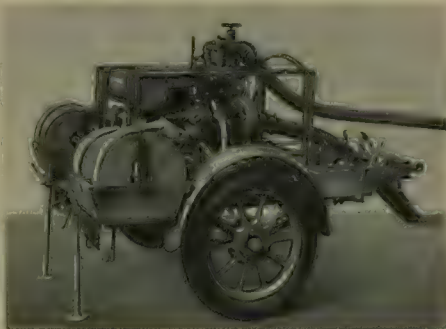
## COVENTRY VICTOR

Home Office Type



## PORTABLE FIRE PUMPS

HIGH  
PRESSURE  
DELIVERY



POSITIVE  
POWER  
PRIMING

As supplied to H.M. Office of Works

### ADVANTAGES

- Smooth vibrationless Engine
- Simple and positive priming device
- Light in weight, approx. 3 cwt. (less Trailer)
- Compact in size, approx. 3 ft. X 3 ft. 6 ins. X 2 ft.

The best preparation against Fire Risks is  
to provide suitable Fire Fighting Equipment

### BE PREPARED

Write now for List A.R.P.2, to the Manufacturers and Patentees.

**THE COVENTRY VICTOR MOTOR CO., LTD.**  
SPRING GROVE WORKS, COVENTRY

Telephone: 5054-5

Telegrams: "Precision, Coventry."



## A.R.P. FROM THE CITIZEN'S POINT OF VIEW: PRACTICAL POINTS FOR THE HOUSEHOLDER AND TOWN-DWELLER.

### EVACUATION AND DISPERSAL.

THOSE who have studied the previous pages in this number will have formed an accurate idea of the forms that the air menace is likely to take; and of the organisation of active and passive defence against it. Here it is proposed to discuss what precautions the average city-dweller of moderate means can take, and to show what degree of protection he may expect to secure for his money. The worst effects of air raids on big cities result from panic. The best allies of the bomber in the air are ignorance and unpreparedness on the ground. Naturally, the best means of all of avoiding panic would be the complete removal of the more helpless elements of a city's population, perhaps of everyone whose business did not keep them on the spot, and their dispersal over wide areas, thereby affording only an unsatisfactory target for aerial bombing.

In his speech of June 1 Sir Samuel Hoare mentioned that a committee of M.P.s were being asked to examine some of the questions raised by mass evacuation, such as: Is evacuation to begin with children alone? Shall mothers be taken with them? Shall men and women not required in big cities also be evacuated? How can the process be prevented from becoming a "class evacuation" of the better-off? How is housing in the country to be provided? This committee has since been constituted and has started its investigation.

In the same debate Mr. Geoffrey Lloyd, who is now in charge of A.R.P. organisation, mentioned that a scheme had already been worked out with the railway companies to move three and a half million people fifty miles from London in 72 hours. He said that this could be done in the press of mobilisation traffic with goods trains still running. In case railway terminuses were damaged, arrangements had been made for road transport with the L.P.T.B. It is worth mentioning that the Home Office pamphlet, "The Protection of Your Home Against Air

Raids," specifically recommends the heads of families to "think whether you can make arrangements for children, invalids, and elderly persons and pets to be sent away the moment danger threatens."

### GAS-ATTACKS FROM THE AIR.

By this time the public probably knows more about the



THE USE OF THE NISSEN HUT—FAMILIAR FROM ITS EMPLOYMENT BY THE TROOPS IN FRANCE, 1914-18—AS AN AIR RAID SHELTER: PEOPLE WAITING TO ENTER A COMMUNAL HUT WHICH HAS BEEN COVERED WITH EARTH.

It is claimed for the Nissen hut air raid shelter that it is blast- and splinter-proof; low in cost; and of general utility when not in service use. It is, of course, particularly well adapted to the provision of small group shelters. The cost is stated to work out at about £5 per occupant. Special arrangements are made for supplying the shelter with pure air; it has its own electric light and sanitary arrangements, and water supply. It can be covered with earth, sandbags, or concrete.

effects of poison gas and the means of countering it than any other weapon likely to be employed in air raids. In point of fact, the effectiveness of gas against civilian populations would appear to be somewhat limited—panic always

excepted. There is said to be more asphyxiating gas in a London street full of motor traffic than would result from a shower of bombs, at least for a period of more than a few minutes.

It is not proposed to go into the details here of the anti-gas precautions that the ordinary householder can take. They are authoritatively set out in the publications issued by the Home Office and the local A.R.P. organisations. In particular, the construction of gas-proof refuges is there explained in minute detail. Those who intend to make a really good job of their refuge-room would do well to get in touch with the A.G.P. Co., of 12, Renfield Street, Glasgow. Their booklet, "Complete Gas Protection, Using the A.G.P. Outfit," contains numbers of practical hints on how to gas-proof a room with the aid of materials supplied complete in one box.

### MEASURES AGAINST INCENDIARY BOMBS.

The incendiary bomb may well prove to be a most formidable weapon when used from the air against civilian populations. Its action is fully illustrated on page 124 of this issue. It is of interest to see what is being done in Paris to meet this particular menace. In the first place, the Paris fire-brigade is so organised as to be capable of dealing with at least 1000 fires at once. Members of the Cement and Concrete Association who went over in May to study French methods were shown a French A.R.P. film designed to give instruction in the combating of incendiary bombs. A bomb was shown burning fiercely on the

floor of a room, and it was demonstrated how the fire could be extinguished by the proper application of sand, and how the application of water, on the contrary, tended to spread the area of conflagration. Next, an incendiary bomb was allowed to start a fire in the living-room of a house, and it was seen how the fire could be dealt with by firemen equipped with light and easily transportable apparatus. Finally, an incendiary bomb was placed on a floor covered with about  $\frac{3}{4}$  in. of



INSIDE A NISSEN AIR RAID SHELTER: A PHOTOGRAPH WHICH GIVES AN IDEA OF THE DEGREE OF COMFORT AFFORDED, AND GENERAL ARRANGEMENTS.

## EVERYTHING FOR SAFETY EVERYWHERE

# AIR RAID PRECAUTIONS EQUIPMENT



- GENERAL CIVILIAN RESPIRATORS
- CIVILIAN DUTY RESPIRATORS
- GENERAL SERVICE RESPIRATORS
- PROTECTIVE CLOTHING
- STEEL HELMETS
- FIRST AID OUTFITS
- OXYGEN ADMINISTRATION APPARATUS
- GAS SMELLING SAMPLES
- STEEL STRETCHERS
- REDHILL CONTAINERS
- STIRRUP PUMPS

All materials for Gas-Proofing Rooms, etc., etc.

Manufacturers of breathing apparatus of every description

Established 1819

## SIEBE, GORMAN & COMPANY, LIMITED

Gas Mask Contractors to H.M. Government.

The oldest designers and manufacturers of breathing apparatus in the world

WESTMINSTER BRIDGE ROAD, LONDON, S.E.1



*The Home Secretary, in the House of Commons, on 12th May said:—*

*The Government consider it to be the obvious duty of all good employers to prepare Air Raid Precaution schemes for their personnel*

SCHEMES PREPARED IN DETAIL

## CONSULT EXPERIENCED ADVISERS

MALAN, STEPHENS & FRENCH Ltd.

17, VICTORIA STREET, LONDON, S.W.1

TELEPHONE: ABBEY 5714

- The Technical Director—Col. L. N. Malan, O.B.E. (late Royal Engineers) has already prepared many schemes based on Home Office recommendations for important Industrial Companies and owners of private dwelling houses

## HORRIBLE but Possible !



**that** your windows may one day be shattered by a bomb explosion . . . Vicious fragments will fly about the room . . . poison gas will have ready entry through the gap.

IT IS WISE TO FIT  
ONE ROOM WITH

**INDESTRUCTO**  
LAMINATED GLASS

which will keep the room  
entirely gas-proof

A  
REAL  
PROTECTION  
FOR ANY BUILDING

Write for full particulars to the Advisory Dept. of  
**BRITISH INDESTRUCTO GLASS, Ltd., Park Royal Rd., Willesden, N.W.10**

Telephone: Willesden 7761-5

*A.R.P. Handbook No. 1. Chap. IV. 10 (1) says:—*

**"Take cover in a gas protected room or shelter"**

# GAS PROTECTION

*To Those Responsible*

*for the Safety of a Staff . . .*

Gas-proofing by the use of specially prepared materials can be carried out so that it is not apparent and the premises chosen as refuge rooms can be used for normal purposes. A.G.P. materials have the vital advantage of being proof against the highly penetrative mustard gas, against which the gas mask is protection for lungs and eyes only. Either your own employees or The A.G.P. Co. will do the work of gas-proofing without interfering with business routine. You are invited to apply for interesting material describing A.G.P. methods.

### *For Your Own Home*

*The A.G.P. (Anti-Gas Protection) Outfit, 40/-, contains everything for protecting one room of normal size. Full illustrated instructions are contained in each outfit. Householders De Luxe Outfits, Price 45/-. Obtainable from any Chemist or from the Company.*

*A.R.P. Handbook No. 1, Appendix A, says: "In each house a room or rooms should be prepared to prevent the entry of gas."*

THE  
**A.G.P.**  
COMPANY, LIMITED

12, RENFIELD STREET,  
GLASGOW, C.2

Showrooms: 173, NORTH STREET, GLASGOW, C.2



(Continued.) sand, and it was shown that the bomb burnt itself out harmlessly.

Thus it will be seen that French methods bear a close resemblance to our own. A suitable scoop, container and hoe for use in smothering and removing incendiary bombs are manufactured by Messrs. Siebe, Gorman and Co. (who also make much other A.R.P. apparatus). Known as the "Redhill" products, they are obtainable at all large stores. Their use is recommended in the Home Office pamphlet, "The Protection of Your Home Against Air Raids."

#### HIGH EXPLOSIVE: THE BIGGEST PROBLEM.

What happened at Barcelona has opened our eyes to the fact that it is high-explosive bombs that are likely to

produce the most disastrous effects in air raids on civilian populations. The large bombs used there did not, as a rule, penetrate the ground, but burst on impact. They made craters which eye-witnesses describe as "no larger than soup-plates." Their destructive effect was entirely due to the terrific "blast" of the explosion, and to flying splinters.

Anyone who has had war experience and been through a bombardment will agree that there is one fairly simple and effective way of avoiding the effects of the blast of high explosive—namely, to get below ground-level. Once it has been realised that quite shallow trenches and simple underground shelters give effective protection against blast, the wisdom of the Government's policy of "dispersion" becomes apparent.

The individual's chances of being involved in a direct hit by a large bomb—particularly a large bomb of the penetrating types—are very small indeed if the population is kept dispersed. By a direct hit is meant detonation within fifty feet. The use of such heavy bombs would probably be reserved for action against military targets, and, owing to their weight and cost, they would not be manufactured in large numbers.

The risks arising from the effects of a large bomb other than a direct hit, and from a direct hit from a bomb of the size that might be dropped in large numbers during an air raid, can be met by protection which it is comparatively easy to ensure. If each family provides itself with an efficient shelter, then the whole city or town will be protected at the minimum of risk and inconvenience. Such shelters need not be unduly expensive if considered at the right time—that is, before building operations have commenced.

The whole question of private and public air raid shelters has been investigated by the Cement and Concrete Association. Their brochures contain an immense amount of practical and authoritative information. They can be obtained from the Association at 52, Grosvenor Gardens, S.W.1.

It is estimated that the cost of incorporating a shelter in a new house is approximately £125 extra to the cost of a similar house without a shelter. It has been categorically stated by the Chancellor of the Exchequer that property assessments will not be increased, either for income-tax or rating purposes "by reason of expenditure incurred in structural alterations, additions, or improvements made

solely for the purpose of giving protection in the event of air raids."

The whole problem of preserving glass against the effects of the blast of high explosive has been studied by such



A PECULIAR FORM OF GROUP AIR RAID SHELTER DEvised IN GERMANY: A CONICAL TOWER, ABOUT 80 FT. IN HEIGHT AND CAPABLE OF ACCOMMODATING OVER A HUNDRED, ON WHICH, IT IS CLAIMED, IT IS ALMOST IMPOSSIBLE FOR A BOMB TO EXPLODE. (Planet.)

This tower is, of course, of concrete. Doors and other openings can be hermetically sealed so that only pure air reaches the interior. Its designers claim that, because of its pointed top and steep sides, it would be almost impossible for a bomb to detonate on it.



AIR RAID PRECAUTIONS IN WAR-STRICKEN MADRID: A STATUE TOTALLY ENCASED IN A BOMBPROOF STRUCTURE OF CONCRETE AND SANDBAGS, WITH AN OUTER SHELL OF BRICKWORK TO GIVE A MORE FINISHED APPEARANCE. (Keystone.)

firms as the British Xylonite Co., makers of plastics of all types. The British Xylonite Co. state that they have succeeded in producing a variety of their transparent Bexoid reinforced with half-inch wire mesh which gives a window material that is blast-proof; while the "Silver Arrow" safety glass produced by British Indestructo Glass, Ltd., has special protective value, since it has been shown that it remains gas-proof and water-proof even after being apparently shattered. "Silver Arrow" is a laminated safety glass.

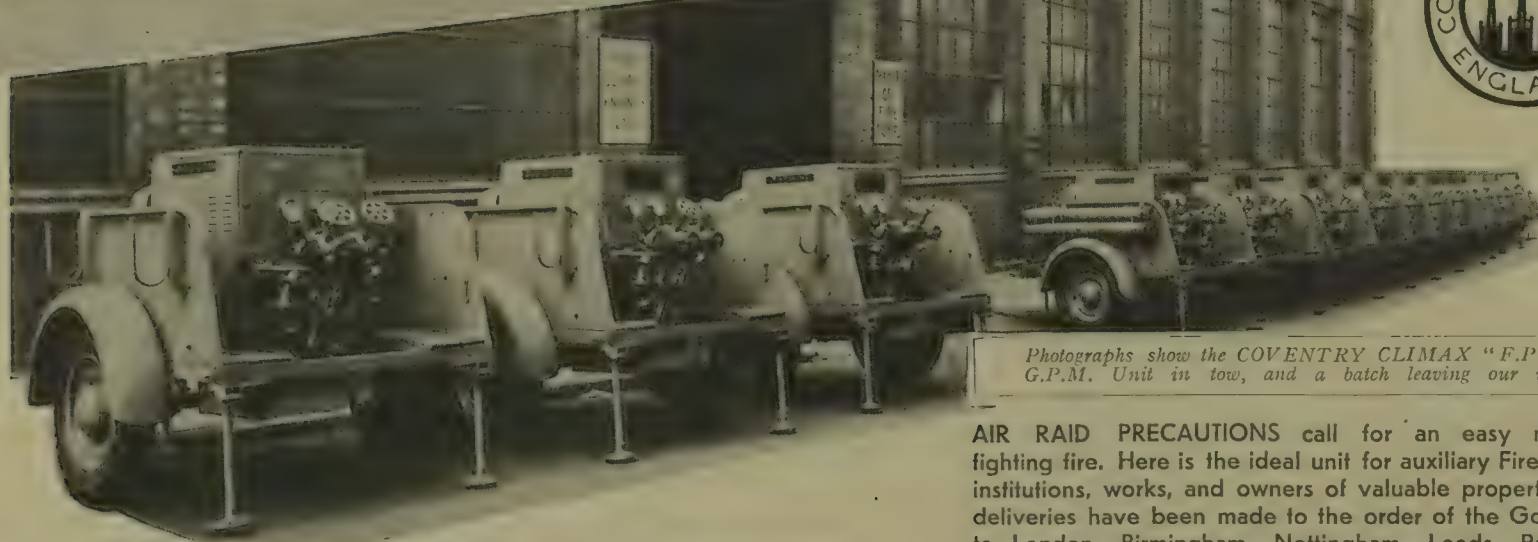
Not only does the Concrete Association provide advice on the construction of shelters, but there exists a special service whose object is to help anyone engaged in either a private or official capacity in going into air raid precautions problems. This service, with headquarters at 10, Blenheim Road, N.W.8, is conducted by Colonel L. N. Malan, late of the Royal Engineers, who was appointed to command the staff for the special duty of the construction of the defences at the Singapore base.

G. H. S.

## COVENTRY CLIMAX TRAILER FIRE ENGINES



### THE MOST MOBILE AND EFFICIENT FIRE-FIGHTING UNITS MADE



Photographs show the COVENTRY CLIMAX "F.P." 500 G.P.M. Unit in tow, and a batch leaving our works.

AIR RAID PRECAUTIONS call for an easy means of fighting fire. Here is the ideal unit for auxiliary Fire Brigades, institutions, works, and owners of valuable property. Large deliveries have been made to the order of the Government to London, Birmingham, Nottingham, Leeds, Portsmouth, Northampton and many other leading Municipal Authorities. Full details of specification will be sent on application to

COVENTRY CLIMAX ENGINES LTD.  
FRIARS ROAD, COVENTRY.

PUMPS 540 GALLONS PER MIN. AT 80 LBS. PRESSURE

### HIGH PERFORMANCE AT LOW COST

CAPACITY EQUAL TO AVERAGE FIRE ENGINE





#### THIS PAGAN HEALTH.

Why is it that, in symbolising healthy nerves, we can find no finer examples than the real and mythical figures of pagan days? How seldom to-day, in office or shop, train or street, does one see a man or woman exuberant with nervous energy.

## "In the present state of medical knowledge . . ."

Medical science, brilliant as are its achievements, is the first to acknowledge that it has still vast territories to conquer. But one thing is basic in modern preventive medicine—adequate organic phosphorus and proteid are essential for nerves and blood. This is just what 'Sanatogen' supplies—better, more quickly and permanently than any other tonic food yet discovered. 'Sanatogen' contains organic phosphorus and proteid in their most easily assimilable forms. 'Sanatogen' is not new: for more than a quarter of a century its supremacy has remained unchallenged. *And 25,000 doctors have vouched for this supremacy in writing.*

'Sanatogen' will repair worn nerves: strengthen enfeebled blood: give you the extra vitality that alone can make you immune from most minor ills. 'Sanatogen' will do these things, and more—it will give you the abounding energy that enables you to enjoy each moment of your work and leisure.

*Live up to life this Summer: take an eight weeks' course of*

# 'SANATOGEN'

A brand of Casein and Sodium Glycero-phosphate

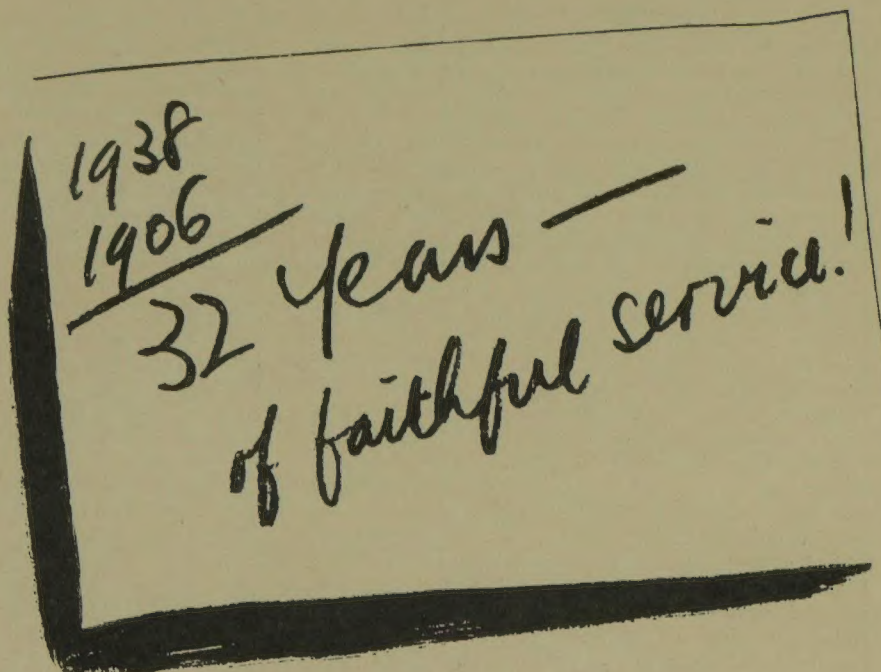
(Trade Mark)

THE NERVE TONIC FOOD

Obtainable at all chemists in 19/9 jars (8 weeks' course) and 2/3, 3/3, 5/9 and 10/9 tins.

The word 'SANATOGEN' is the Trade Mark of Genatosan Ltd., and denotes their famous brand of Casein and Sodium Glycero-phosphate. A 'GENATOSAN' product made by GENATOSAN Ltd., Loughborough, Leicestershire.

M & C



IN 1906, two English gentlemen decided to produce the 'best car in the world'! The Rolls-Royce.

In those days, just as today, Rolls-Royce aimed at achieving nothing less than perfection. As the lubricant for their cars, they deliberately chose Price's Motorine. Thirty-two years have passed. Oils and cars have both vastly improved. And Motorine, in its modern form, continues to be the oil used and recommended by the modern Rolls-Royce.

This suggests that there must be something remarkable—some big advantage—in Motorine. There is! Being a *compound* oil, it is definitely 'oilier.'

(The word 'compound' means that a base of mineral oil is fortified by the addition of fatty oil, which is famous for its extraordinary resistance to really high engine temperatures.)

Motorine not only possesses all the points of any good oils. It has also this exclusive advantage of *extra safety*! You have something in hand even if you drive your car to the limits of its performance.

And yet Motorine does not cost any more than other high-grade oils! You should start using it today.

## PRICE'S MOTORINE

the 'oilier' oil

RECOMMENDED OR APPROVED BY ROLLS-ROYCE, BENTLEY, M.G. MORRIS, AUSTIN, SINGER, VAUXHALL, BUICK, RILEY, WOLSELEY, ETC.

PRICE'S LUBRICANTS LTD., BATTERSEA, LONDON S.W. II



## THE WORLD OF THE THEATRE.

By IVOR BROWN.

### THE GROWTH OF FESTIVALS.

A FEW years ago holiday play-going, of any serious or substantial quality, was limited to the Malvern Festival, where Sir Barry Jackson used to present historical cycles and the works of Mr. Shaw. The idea of giving the drama summer quarters for festive, cultural, or experimental purposes has proved so popular that a keen play-goer or student of the theatre who leaves London in the middle of July can now find pleasant occupation in varied and delightful surroundings until the middle of September.

The desire to raise funds for some ancient building or holy cause is one source of theatre festivals. This year, for example, our wanderer could begin at Canterbury Cathedral in July, where "Christ's Comet," a verse-play by a young poet of great promise and distinction, Mr. Christopher Hassall, was performed in June. At Tewkesbury Abbey, on a stage built against the walls, during the week beginning July 18, two plays by that always entertaining dramatist, Mr. James Bridie, "Tobias and the Angel" and "Jonah and the Whale," will be performed to help the fund necessary for the preservation of the Abbey. Tewkesbury Abbey, needless to say, is one of the glories of our architecture, and a stranger could not find a more characteristic country town of England's Middle West than at this scene of ancient battle where Shakespeare's Avon runs into the Severn, Milton's "Sabrina Fair." Close by are the Cotswolds, the Malvern Hills, and the town of Cheltenham Spa, remarkable for the beauty of its late Georgian and early Victorian squares, crescents and terraces, where once the bucks and belles paraded to see the mighty Siddons strike terror to an audience.

The Malvern Festival follows on August 1, and will consist of four repetitions of a weekly programme which offers not only Miss Bergner in Mr. Shaw's "St. Joan," but a new play by Mr. Shaw, and other new plays by the following dramatists: J. B. Priestley, James Bridie, C. K. Munro, and Lord Dunsany. Malvern has never been so adventurous in new production before, and this promises to be one of the most interesting Festivals ever held in

that town. After that the wanderer, if not yet sated, can cross over to Dublin, where the Abbey Theatre Players will be showing all that is best in their recent productions. Then he can go into the Peak of Derbyshire, to hilly Buxton, at the end of August or beginning of September, for the "Old Vic" team's visit to the Drama Festival. Despite what seemed to be a rather austere programme, this proved so popular last year that it simply had to be renewed. Buxton, for example, will receive a full-length rendering of "Hamlet," which means four solid hours of attention. As everybody knows who has seen the full-length version, the play acts so much better when not cut that there is really no strain put upon the audience by demanding the full stretch of concentration. It is the actors who have to face a stiff challenge to endurance.

During the whole summer, too, up till mid-September, there will be the Shakespeare Festival at Stratford-upon-Avon. Stratford is easily reached from Tewkesbury or Malvern and, since the Festival is going on all the time, it can be used to fill in vacant dates. Visitors to Stratford need not fear that they will find nothing but classics of which they may have already seen enough elsewhere. Have they ever seen "Two Gentlemen of Verona" before or "The Comedy of Errors"? Certainly they will not have seen the latter produced with such gaiety and such freedom of modern invention as Mr. Komisarjevsky has now applied to it.

There are many advantages about holiday play-going. Chief is the absence of hustle. A visit to the theatre in London is often spoiled by the necessity of hurrying on from work and bolting a quick meal, or by the general scamper involved if one is going to get home and change and feed between six and eight or eight-thirty.

At a Theatre Festival in the country nearly all are their own masters. Time is no longer a tyrant. What better day can be imagined than one spent walking along the sharp and airy spine of the Malvern Hills, with their magnificent views over England and Wales, or driving through the precipitous dales and over the great surge of moorland around Buxton? At Stratford you are close to the North Cotswolds, which contain, in Chipping Campden, one of the most beautiful towns in England, and close also to Compton Wynyates, as fine a piece of Tudor splendour as Hampton Court itself and made all the

more attractive by its lovely situation among the woods and flower-painted meadows. Here you will see one of those old English gardens of clipped yews and fantastic bushes and hedges which make you immediately long to produce "Twelfth Night," "The Dream," or "Much Ado" on the velvet of the enchanted lawns.

From such pleasures, or from some more Philistine but no less salubrious activity, such as tennis or golf, you return to the rippling Avon, the steep gardens of Malvern, or the serene stone crescent and exquisite lawns of Buxton, and so to the play. Perhaps a new play, perhaps an old one. In any case, you can rely on quality. These Festivals are not just providing something a little better than the ordinary holiday concert-party. They are giving you the real thing. The Malvern programme this year is a marvellous bargain, resembling a Shaftesbury Avenue autumn packed up tight into one week, and then presented to you in the midst of hills and trees and green fields instead of in the midst of motor-buses, clatter, and the steamy, tired air of London in summer.

Furthermore, when the play is over, there is no necessity for pelting off to the suburbs. You can sit up and talk, which is the proper way to finish a night in the theatre. You can even, if the weather is kind, go midnight picnics, nowhere better than on the Malvern summits, with their enormous vistas over a countryside bewitched by the pale blink of the moon. Let me confess that some of my happiest memories of theatre festivals are of the accessory delights, of good company in good places, with a common interest in the drama as a linking theme for conversation.

Theatre festivals have given us the first view of many notable successes, including "The Barretts of Wimpole Street," "The Apple Cart," and so forth. This side of the business, the experimenting with new work, is increasing, as is proved by the Malvern programme of this year, to organise which Mr. Roy Limbert has given a spring and summer of the hardest possible work. Theatrical plans are always fluid and make organisation difficult. To arrange and present six new productions of West End calibre on six successive nights in a country-town theatre is a terrific task. All good luck to Mr. Limbert, the manager, and Mr. Ayliiff, the director of the plays!



*Excuse Me!*

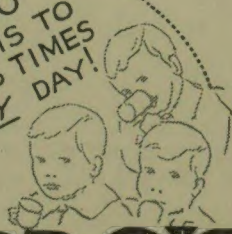
I'm here to remind you that 8,200 Barnardo boys and girls need 3 meals every day. 10/- feeds one of us for a fortnight....

Please help the world's largest family of needy children by sending a gift towards the

**400,000 HALF-CROWN FOOD FUND.**

Cheques, etc. (crossed), payable Dr. Barnardo's Homes, should be sent to 92 Barnardo House, Stepney Causeway, London, E.1.

8200 MOUTHS TO FILL 3 TIMES EVERY DAY!



**BARNARDO'S**



*This Sporting Isle*

*Bermuda*  
**PLEASURE ISLAND**

Long, long ago the Gulf Stream excluded winter from Bermuda.

Here are golf courses overlooking tiny islands... splendid reaches of protected water... coral bathing beaches delicately pink. Close at hand are the deep-sea haunts of tuna, bonito and wahoo. Roads, winding between hedges of hibiscus and oleanders, are innocent of motor-traffic. In Bermuda you can play your favourite game at any season of the year.

**GO BY SEA AND BY AIR**

Return steamship fares from £36. New York-Bermuda daily air services in 5 hours. For further information apply to your travel agent, or to the Bermuda Trade Development Board, 329 High Holborn, London, W.C.1



## CONTINENTAL HOTELS

## AUSTRIA

Semmering—(3000 ft. a.s.l.) 1½ hours from Vienna. Suedbahn Hotel—The Golfer's Home—open-air swimming pool.

## BELGIUM

Brussels—Hotel Metropole—

The leading Hotel. The finest Hotel Rooms in the World.

Knocke-Zoute—Palace Hotel—Sea front. Near golf, Casino, Bathing, Tennis. Special early Season rates.

Knocke-Zoute—Rubens Hotel—Best 1st. class hotel facing sea; near Casino, Golf, Tennis. Apply for prospectus: M. Vandenbosch.

## CZECHOSLOVAKIA

Prague—Alcron—the leading hotel in Czechoslovakia—200 rooms, 200 baths—Garage for 100 cars.

Franzensbad—Hotel Imperial, exclusive, world known, close to the springs and baths, own park. Season April 15th to October 15th. Prospectus.

Franzensbad—Hotel Königsvilla—The leading Hotel.

## FRANCE

Paris—Hotel Opal—For Business or Pleasure, 10, rue Tronchet. Definitely central. (Madeleine Church). Up-to-date. Rms. from 6/-. Eng. spoken.

Cap-Martin—Cap-Martin Hotel.—Free bus service, with Monte-Carlo & Menton. Tennis. Swimming inclusive from Frs. 110, with bath from Frs. 135.

Le Trayas (Var)—French Riviera—Navitrol—Near Cannes' golf. Take a cruise without leaving land. Ask for illustrated booklet with terms.

Le Touquet—Hotel des Anglais—In forest adjoining Casino. Every possible comfort. Large park. Own bus to Golf and Sea. Moderate.

Le Touquet—(P. de C.)—Golf Hotel.—Facing Links. New Lounge and American Bar. Special privilege of daily green free.

Le Touquet—Hotel Regina—Facing Sea. Opp. Swimming-pool. First-class residential hotel. Attractive inclusive rates.

Monte Carlo—Hotel Terminus Palace—1st class Sea-front. Facing Casino gardens. Weekly terms incl. tips & tax from £3.10.0. With private bath £5.

## GERMANY

Baden-Baden—Bellevue—The well-known first-class family hotel in 5 acres own park. Most reasonable rates. Prospectus.

Baden-Baden—Hotel Frankfurter Hof—Wholly renovated. Facing Kurpark; a home from home. Manager's wife English. Prices moderate.

Baden-Baden (Black Forest).—Brenner's Stephanie.—The leading Hotel.

Baden-Baden (Black Forest).—Brenner's Park-hotel—Family Hotel de Luxe.

Baden-Baden—Holland Hotel—150 beds; large park. Close Casino. Pension terms: R.M. 11 upwards. Personal management H. A. Rössler.

Bad Kissingen—Hotel Reichshof—Distinguished family Hotel. Garage. Opposite Park.

Bad Kissingen—Staatl.—Kurhaushotel—World-renowned house. Mineral baths in hotel. Garages.

Bad Nauheim—Hilbert's Park Hotel—First-class Family Hotel. Unique location in quietest position of the Kur-Park opposite. Baths and Springs.

Bad Nauheim.—Jeschke's Grand Hotel.—The home of the discriminating client.

Bad Nauheim—Hotel Augusta Victoria—Situating directly opposite the Baths. Park. Every comfort. Full pension from R.M. 9.

Cologne—Schweizerhof—Victoriast. 11. 100 beds. All mod. comf. Garage, A.A. Hotel, quiet sit. Home from home. Incl. terms from R.M. 7.00.

Bad Schwalbach (Taunus)—Staatl. Kurhotel. Every room with private toilet and balcony. Built in 1931. Terms from R.M. 10.50.

Dresden—Hotel Bellevue.—The leading Hotel. Unique position on river. Garden-Park, Terraces. Reduced rates. Gar. Man. Dir. R. Bretschneider.

Düsseldorf—Breidenbacher Hof—Leading Hotel World renwd. Fav. home of int. soc. Fam Grill Am. Bar—Ore. Gar. 150 R. fr. 6.—75 Pr. baths fr. 9.

## GERMANY—(Continued)

Frankfurt-on-Main—Hotel Frankfurter Hof—Leading, but not expensive. Grill-room Bar.

Garmisch-Partenkirchen—Park Hotel "Alpenhof."—Lead'g hotel in Bavarian Alps. Cen. sit. Every com. Prospectuses through proprietor: Hanns Kilian.

Garmisch-Partenkirchen.—Hotels Gibson/Schönblick.—First-class houses. All modern comfort, near sporting grounds. Moderate terms.

Garmisch—Bavarian Alps—Sonnenbühl—Golf Hotel. Incomparably beautiful situation. 1st-class hotel. Every comfort at Moderate Terms.

Hanover—Hotel Ernst August—The city's most distinguished hotel of international name. Owner: Friedr. Wilh. Nolte.

Heidelberg—Hotel Europe—First-Class. Quiet location in old park. Rooms from R.M. 5.

Königswinter o/Rh.—Kurhotel Petersberg.—Highest class. Overlooking Rhine-valley. Motor-rd. Rack-railway. Gars. Sports. Pens. fr. Mks. 12.50.

Leipzig—Hotel Astoria—The latest and most perfect hotel bldg. Select home of intern. Society & Arist'cy. Mangd. by M. Hartung, Council of Com.

Lindau (Lake Constance)—Hotel Bad Schachen—First class throughout—200 rooms—private beach—extensive park—tennis courts—moderate terms.

Mannheim—Palace Hotel Mannheimer Hof—The leading house at moderate prices. 240 beds, 100 bathrooms. Prop.: Fritz Gabler.

Munich—Grand Hotel Continental.—Where everyone feels at home. Quiet location. Moderate terms. Garage.

Munich—The new Hotel Excelsior—Near the Hauptbahnhof. First class, modern and quietly placed. Rooms from R.M. 3.50 onwards.

Munich—Hotel Der Königshof—Karlplatz—1st class. Central situation. 150 rooms. 50 baths. From 5 Mks. New Garage in hotel.

Munich—Park Hotel.—Well-known family house. All rooms with hot & cold running water. Most reasonable rates.

Sasbachwalden (Black Forest)—Landhaus Fuehs—20 miles fr. Baden-Baden, a country hse. dsngnd. for the few. Private swim. pool. R.A.C., N.T.C. hotel.

Wiesbaden—Hotel Schwarzer Bock—1st-class family hotel. 300 beds. Medicinal Bath in hotel. Golf. Tennis. Garage. Pension from Marks 9.

Wiesbaden—Hotel Nassauer Hof—World renowned. Finest pos. op. Pk. and Opera. Wiesbaden Springs. Pat'd. by best British society. Pen. from Mks. 12.

Wiesbaden—Palast Hotel—1st. class Hotel, opposite Kochbrunnen. Every possible comfort. Own bath, estab. Pension from R.M. 10.

Wiesbaden—Hotel Rose—World-renowned Hotel. Own bathing establishment. Patronised by English and American Society. Pension from Marks 12.

Wiesbaden—Hotel Vier Jahreszeiten (Four Seasons) Select home of Society. Best position opposite Kurhaus, Opera, Parks. Pens. from R.M. 12.

## SWITZERLAND

Bürgenstock—Lake of Lucerne—Palace Hotel—Holiday resort. Golf. Tennis. Bathing Beach.

Davos—Palace Hotel (Summer 1938)—Rooms from Frs. 6 Full board, Frs. 15. With Parsenn Railway on 8000 ft.

Geneva—The Beau-Rivage—With its open-air Restaurant, Terrace on the Lake, Facing Mt. Blanc. All comfort. Rooms from Frs. 7.

Geneva—Hôtel de la Paix—On Lake facing Mont-Blanc. Close to pier and places of interest. Lovely rooms fr. S. Frs. 6. With full board S.Frs. 14.

Geneva—Metropole & National—The comfortable hotel on the lakeside and the nearest to the business centre. Rooms from Frs. 6. Pension from Frs. 14.

Gillon—(2200 ft. abs.l.) Grand Hotel and Righi Vaudois—Leading Hotel, low rates. View of Lake Geneva. Tennis. Garage. 15 Min. from Montreux.

Grindelwald—Bear Grand Hotel—The gay centre for holiday-makers. Tennis, swimming, excursions, amusements. Terms from Sh. 14.

Gstaad—Berlinerhof—Typical Swiss Hotel in Bernese Oberland. Style. Noted for food and comfort. Golf. Tennis. Swimming.

Gunten.—Park Hotel. (Lake Thun)—Full South on lake front. Large Park. Gar. 1st-class family Hotel. Bathing, Tennis, Golf. Pension from Frs. 12.50.

Interlaken—Hotel Schweizerhof—Renowned for its fine sit., ex. cooking, and comf. Rms. fr. Frs. 6. Pen. rates from Frs. 14. Garage, tennis, swimming-pool.

## SWITZERLAND—(Continued)

Interlaken. Grd. Hotel Victoria-Jungfrau—finest situation on main promenade facing Jungfrau, absolutely first class. Pens. rate from Frs. 17.-

Klosters.—Grand Hotel Vereina.—First class. Home of best English Society. All Summer Sports. Lake bathing. Pension terms from Frs. 15 onwards.

Lausanne—Hotel Meurice—On the Lake. 110 beds. The best First-class hotel entirely renovated. Inclusive terms 11/-. Garage. Garden.

Lausanne—Ouchy—Beau Rivage - Palace—The leading family Hotel in splendid Park, on shores of the Lake of Geneva.

Lausanne—Victoria—First-class. Magnificent view on lake and Alps. Rooms from Frs. 5. Inclusive from Frs. 12.

Lenk (Bernese Oberland)—Sport Hotel Wildstrubel—Alpine Flora at its best, easy walks and mountain tours. Every comfort. Terms from Frs. 10.

Lenzerheide (Grisons).—The Schweizerhof.—In own large grounds. Most beautiful Alpine scenery. En pension rates from Frs. 13.

Lucerne—Hotel Beau-Rivage—Facing lake, next door to Casino. First class. Excellent food. Pension from S. Frs. 14.

Lucerne—Carlton Hotel—1st. class. Finest situation on lake. Moderate terms. Private sun and lake baths free for guests. Park. Tennis. Garage.

Lucerne—Grand National—Ideal location on lake. World known for comfort and personal attention.

Lucerne—The Palace—Leading hotel in unrivalled situation directly on lake-shore—quiet—yet central.

Lugano (South Switzerland)—Adler Hotel—Near station in own grnds. fac. lake, exceptl. view. Rms. Frs. 4. Pen. fr. Frs. 11. Open the whole yr. Gar. boxes.

Lugano (South Switzerland)—Hotel St. Gotthard-Terminus.—Fam. hot. with all mod. comf. Beaut. view. Excel. food, lrg. gdn. and ter. Gar. Mod. trms.

Lugano—Lloyd Hotel (Southern Switzerland)—Directly on the Lake. All comforts. 100 beds. Open-air terrace. Restaurant. Pens. rate from Frs. 11.50.

Lugano (Southern Switzerland)—Majestic Hotel—Strictly first-class. Best view, full south. Own private swimming-pool. Open-air restaurant.

Mont Pelerin—Grand Hotel—Most cen. and beaut. spot for rest & hols. 3,000 ft. up; mag. view over Lake of Geneva easy access all dists.; tms. fr. 12s. a day.

## SWITZERLAND—(Continued)

Montreux—The Excelsior—Has the best situation on Lake. 1st. class. 110 rooms all south. Recommended for a stay all year round. Personal attention.

Montreux—Montreux Palace Hotel—Ideal for holidays at all seasons. All rooms facing lake. Mod. comf. Golf. Ten. Large Park. Garage. Beach.

Oberhofen (Lake Thun) Hotel Victoria—leading in position and quality. Every comfort. Park. Garage. Bathing, Tennis. Pension from Frs. 9.50.

Pontresina—Sport Hotel Pontresina—150 rooms with bath and running-water. First-class throughout full pension from Frs. 15.

Rheinfelden-Spa—11 miles from Basle—Hotel Salines—140 beds. Beaut., quiet sit. on river Rhine. Lge. pk. Min. bths. in htl. Incl. trms. fr. Frs. 12.50.

Spiez—Park Hotel—above village. 5 min. fr. stn. Delight. walks. Marvellous view. Exquisite cooking. Pens. rm. w.r.w. fr. Frs. 9. w. priv. bath fr. Frs. 10.

St. Moritz—Badrutt's Palace Hotel—Host to the Elite. Season June 15th to end of September.

Thun—Hotel Bellevue and Park—Central for excursions. Pension from Frs. 10. Large Park, Tennis, Swimming and Golf.

Thun—Hotel Victoria—Baumgarten—Every comfort. Large shady Park. Very quiet. Diet. Terms from Frs. 10.

Vitznau—Parkhotel—Bon Bros., proprietors. Ar guaranty for happy holidays.

Weissenburg—Bernese Oberland—Waldkurhaus—Ideal for restful holidays, surrounded by splendid woods and Alpine meadows. Incl. terms from Frs. 10.

Wengen—Palace Hotel—the leading hotel of the Jungfrau district, offers you the most enjoyable summer holiday. Tms. fr. Frs. 15.50. F. Bortel, Prop.

Wengen (Bernese Oberland)—Paro Hotel Beausite—1st class. Family hotel. Weekly terms all inclusive, from £5.

Zurich—Hotel Bellevue au lac—Finest situation on lake. Open-air terrace. Restaurant. Bar.

Zurich—Hotel Waldhaus Dolder—Family Hotel. Unrivalled position overlooking town, lake and Alps. Full board, Frs. 14. Swim.-pool. Golf. Tennis.

## LE TOUQUET HOLIDAYS

HOTEL REGINA ON SEA FRONT - 5 Gns.  
HOTEL DES ANGLAIS IN FOREST - 5½ Gns.  
PER WEEK, FULL BOARD, TAXES & SERVICE.

ENJOY PARIS TO THE FULL by staying at the

## HOTEL CLARIDGE

74, AVENUE DES CHAMPS ELYSÉES, where English is spoken and English tastes are understood. This hotel was reopened in May, 1937, and has been entirely renovated. The cuisine is the finest in Paris—under the direction of Dreneau, former chef of Ciro. New management.

## LAKE OF BOHINJ (near Bled) YUGOSLAVIA. HOTELS SVETI JANEZ

AND SVETI DUH. Directly on lake-shore. Tennis. Fishing. Swimming. Excursions. Alpine flora. Garage. Excellent food.

## BRITISH HOTELS

## PUMP HOUSE HOTEL

All modern conveniences—Adjoining Pump Room and Baths—Situating in own grounds—12 miles of Trout Fishing—Excellent Golf Course.

## LLANDRINDOD WELLS

Telephone: Llandrindod 2234

THE HONYWOOD HOTELS

For Luxury without Extravagance—stay at

## The POLYGON

SOUTHAMPTON'S SUPER HOTEL

Telephone: SOUTHAMPTON 5061

Paris and the famous holiday regions: Normandy, Brittany, the Loire with its chateaux, the Basque country, noted spas and the Riviera — all await you.

Reduced railway fares. For all information apply to any Travel Agent or FRENCH RAILWAYS — NATIONAL TOURIST OFFICE, 179 Piccadilly, W. 1.



# Who first smoked with his drink?

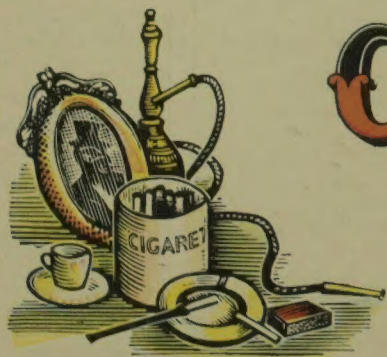


LE BON BOCK.

BY EDOUARD MANET (1832-1883). IN THE POSSESSION OF MR. &amp; MRS. CARROLL S. TYSON, PHILADELPHIA.

The question, in the words of Sir Thomas Browne, "might admit a wide solution". Legend might plump for Old King Cole, but History would suggest an Elizabethan Englishman, perhaps the triumphant Raleigh himself. Though even he may have been forestalled by some Aztec puffing at a pipe as he drank his chocolatl. We can only conjecture. Certain it is that few things go better together than tobacco and a drink. In succeeding centuries

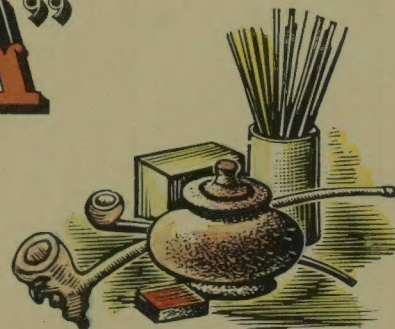
tobacco has become mellower and more fragrant, the cigarette has come to join the pipe, the loveable leaf is more and more the constant companion of thirst. Writers and painters love to depict men smoking, glass in hand, because at such moments they become more richly human. Either growing tolerant and witty in company, as Dickens and Lamb knew well; or, as Manet shows his jovial friend, silent with contentment.



## CRAVEN "A"

CORK TIPPED

*This Century's Good Cigarette*



CARRERAS GIVE YOU SMOKING: CRAVEN "A". CRAVEN PLAIN CIGARETTES. CRAVEN MIXTURE TOBACCO